

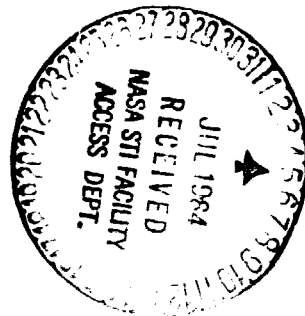
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TOPEX ORBITAL RADIATION STUDY



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TOPEX ORBITAL RADIATION STUDY

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1. Introduction

At the request of the TOPEX Project Office, a comprehensive study was conducted to define the space radiation environment of the TOPEX spacecraft for a mission duration of 3 years and a tentative launch at 1989.2. For practical and economy reasons, a single trajectory was considered.

Following the precedent established with previous studies, the external (surface incident) charged particle radiation, predicted for the satellite, was determined by orbital flux integration for the specified trajectory (see section 3). The latest standard models of the environment were used in the calculations (see section 5). Because the launch epoch falls into the active phase of the solar cycle, the evaluation was performed for solar maximum conditions.

Magnetic field definitions for the nominal circular trajectory were obtained from a current field model.

Spatial and temporal variations or conditions affecting the static environment models were considered and accounted for, wherever possible.

The spacecraft exposure to cosmic rays of galactic origin is evaluated over its flight-path through the magnetosphere in terms of geomagnetic shielding effects, both for surface incident heavy ions and for particles emerging behind different material thicknesses.

Limited shielding and dose evaluations were performed for simple infinite slab and spherical geometries.

Results, given in graphical and tabular form, are analyzed, explained, and discussed. Conclusions are presented and commented on.

2. SPECIFICATION OF ORBITS

The analysis was based on nominal circular orbit with an altitude of 1334 kilometers and with an inclination of about 63 degrees.

3. GENERATION OF TRAJECTORIES

A flight path ephemeris was generated for the selected orbit with the GEODYN-BLCONV System¹ for a trajectory of 24-hour duration defined at 1-minute intervals. The length of the simulated orbit time and the integration stepsize were especially selected so as to provide sufficient point density to insure an adequate sampling of the ambient radiation environment when flying the trajectory through the models. The trajectory was subsequently converted from geodetic polar to magnetic B-L coordinates with McIlwain's INVAR program of 1965² and the field routine ALLMAG³, which now utilizes the BARRACLOUGH 1975 field model⁴. The field computations were extrapolated to the tentative mission epoch of 1989.2 with linear time terms representing secular variations of the field.

4. FLIGHT PATH EXPOSURE TO TRAPPING DOMAINS

The investigated flight-path configuration displays a significant characteristic of high inclination orbits in magnetic L-space: they traverse the entire terrestrial radiation belt twice during each revolution, moving back and forth through regions of low L values (the inner zone: $1.0 < L < 2.8$), regions of high L values (the outer zone: $2.8 < L < 12$), and regions outside the trapping domain (external). Occasionally, some revolutions will also enter regions of space where no particle trapping can occur because of atmospheric cut-off conditions; that is, trajectory segments may have a combination of magnetic B and L values that place them outside the atmospheric cut-off limits of the models.

These excursions and the "external" visitations afford the satellite an amount of flux-free time, which may be of substantial duration (see section 12, C).

5. TRAPPED PARTICLE ENVIRONMENT MODELS

The fluxes in this study were obtained from current NSSDC models: the solar maximum AE6 for the inner zone electrons⁵, and the interim model AEI7 for the outer zone electrons⁶, and the solar maximum version of the new AP8 model⁷ for energetic trapped protons. It should be noted that the interim AEI7 does not reflect solar cycle variations in its present state. However, this model was issued in two versions, the AEI7-HI and the AEI7-LO, in order to account for differences in the data sets used in their construction. The AEI7-LO was used for this effort. All models describe an average static environment at a given epoch.

6. ORBITAL FLUX INTEGRATIONS

Orbital flux integrations were performed with the UNIFLUX⁸ and the SOFIP⁹ systems. UNIFLUX provided exposure times with B-L breakdown, while SOFIP provided the dose and shield data.

7. GEOMAGNETIC SHIELDING AND SOLAR FLARE PROTONS

Low inclination orbits experience a significant amount of geomagnetic shielding from cosmic rays of solar or galactic origin in the energy range $E > 10$ MeV. However, at 63 degree inclination, the TOPEX spacecraft will only intermittently be shielded from the unattenuated interplanetary cosmic environment, including solar flare proton intensities of all energies above 10 MeV.

Usually, geomagnetic shielding effects on geocentric missions are being evaluated with simple rigidity considerations because of substantial diurnal variations in the cutoff latitude associated with geomagnetic tail effects (2-4 degrees) and storm-induced changes (> 4 degrees). The simple analysis used here assumed that energetic solar protons of all energies above 10 MeV have free access to all magnetospheric regions external to a dipole shell of $L=5$ earth radii, which is equivalent to a cut-off latitude of about 63 degrees.

Predictions of solar flare proton fluxes at 1 AU are obtained as a function of mission duration τ and confidence level Q^* on the basis of a probabilistic analysis¹⁰ using a modified type of Poisson statistics by a computerized model SOLPRO¹¹ that includes the distinction between "ordinary" (OR) and "anomalously large" (AL) events and the probability of occurrence of the latter. Both AL-and OR-event fluences are non-linear functions of Q and τ .

For these predictions, only high quality comprehensive satellite measurements (not ground observations) were used, covering almost the entire 20th solar cycle. There have been indications that descriptions of the solar flare environment in interplanetary space (at 1 AU), derived from interpretations and extrapolations of ground-based measurements, have not been very accurate.

It should be noted that the statistics cannot predict when an AL event will occur; only the probability that one will occur in a given length of time. And it must be remembered that a single AL event will impart its total fluence within two to four days.

This implies that for unmanned satellites with mission durations of $\tau > 1$ year, OR-event fluence are not significant because probabilistic theory predicts the possible occurrence of at least one AL event, even for the lowest allowable confidence level ($Q=80\%$).

Incidentally, to a first approximation, the solar flare proton fluxes may be considered omnidirectional and isotropic, probably to within 10-15%.

8. FLUX DATA: TYPE, QUALITY, AND VARIATIONS

The trapped particle flux data available from the models represent omnidirectional, integral intensities that one would expect to obtain as average values over periods of time in excess of six months. But over most regions of magnetospheric space ($L > 2$ earth radii), short term excursions can vary from these values by factors of 10^2 to 10^3 , depending on the particle energies and on the type and intensity of the causative event. These variations, however, do affect the TOPEX mission because its trajectory enters regions of space where L is greater than 2 earth radii. Also, trapped particle populations experience changes due to: (a) local time (LT) dependence, and (b) solar cycle dependence. Both are of some consequence to TOPEX. The former is significant for spacecraft that sample regions where $L > 5$, which are visited by TOPEX. To compensate for these variations, the model provides LT-averaged values, which should yield an adequate approximation for missions of long duration ($\tau > 1$ year). The latter has been taken into account by selecting the appropriate solar cycle models.

Generally, solar cycle variations have opposite effects on each particle specie:

	<u>Solar Min</u>	<u>Solar Max</u>
Electron Intensities	lower	higher
Proton Intensities	higher	lower

* Q denotes the degree of confidence one wishes to assign to the results; namely that for the specified mission duration the calculated fluences are the smallest values which will not be exceeded by actually encountered intensities.

The solar cycle changes, as derived from a comparison of the corresponding models, are functions of energy E and magnetic parameter L. For the inner zone electrons, they may range from a factor of 1 to a factor of 5.

Protons are only affected in the vicinity of the atmospheric cutoff regions. No changes of consequence have been observed in the heart of the proton trapping domain. Proton changes have about the same range as those of the electrons.

It is necessary to emphasize that the calculations, although based on the best data available for the past epochs, can only serve as approximations for the future.

It also should be noted that a basic uncertainty factor of 2 is defined for the flux values of the AP8, while the AE6 is characterized by a weighted average uncertainty factor of 5 (minimum 2, maximum 10) . No uncertainty factor has been defined for the interim AEI7.

9. DOSE AND SHIELDING EVALUATION

Doses were calculated from the total orbit integrated, surface incident, omnidirectional, integral fluences by existing shielding codes¹², as functions of various aluminum shield thicknesses and geometries.

A simple procedure was followed, not involving solid angle sectoring or three-dimensional ray tracing considerations. Instead, a simple two-dimensional geometry with 2π steradian omnidirectional incidence and a cosine law for the incident spectra, and a three-dimensional spherical geometry with omnidirectional incidence were considered. (See comment in section 12D).

Bremsstrahlung calculations were performed with the same codes.

10. COSMIC RAYS

The interplanetary galactic cosmic ray background was attenuated by the degree of geomagnetic shielding experienced by TOPEX along its trajectory through the magnetosphere.

The exposure of TOPEX to the magnetospherically attenuated cosmic rays and the interaction of the heavy ions with the spacecraft materials, in terms of equivalent aluminum thicknesses, were then evaluated for simple structural configurations; that is, a three-dimensional spherical geometry with omnidirectional incidence was considered. The shielded cosmic ray fluxes emerging behind the selected material thicknesses were calculated with state-of-the-art transport codes¹³.

11. RESULTS: PRESENTATION DESCRIPTION

This section describes the form and format in which the results, derived from the Orbital Flux Integration (OFI) process, are presented for practical use. Except where otherwise specified, all particle data in this report relate to

integral, omnidirectional fluxes or fluences.

A. Tabular Presentations

The outcome of all calculations is summarized in Tables 1 to 36. The tables are arranged in seven sets, where every set pertains to one specific type of data. The first set has two similar members: one for trapped protons and one for electrons, in that order. The next three sets contain only one member. The fifth set contains three similar members. The sixth set contains one member. The seventh set contains twenty-seven similar members: one for each ion species considered in the study. A more detailed description of the tables is provided in the following paragraphs.

I. Spectral Profiles: Tables 1-2

Tabulation of average orbit-integrated spectral distributions. Composite spectra are given in units of: fluxes per square centimeter per second, fluxes per square centimeter per day, and total fluences per specified mission duration (3 years). For the electrons, the latter is also given in terms of inner and outer zone contributions. Functionally derived differential fluxes are listed in the last columns for both species of particles.

Total orbit-integrated spectra in percent, for energy intervals ΔE corresponding to selected energy levels are also given in terms of average instantaneous and daily intensities.

An exposure index (for energies $E_p > 5$ MeV for protons and $E_e > .5$ MeV for electrons) is listed for nine successive intensity ranges varying by one order of magnitude, in terms of processed exposure duration (in hours) and total number of particles accumulated while in that intensity range for the indicated number of hours.

II. Peaks and Totals Per Orbit: Table 3

These tables contain the absolute instantaneous peak fluxes and the total fluences accumulated during each successive revolution, as obtained from the nominal trajectory for the investigated flight duration (24 hours of mission time).

Specifically, there are nine columns on these tables. Column 1 is an orbit counting device, based on:

- a) the orbit period when the trajectory is circular and lies in the equatorial plane;
- b) the physical perigee in all elliptical flight-path cases; and,
- c) the equatorial crossing for circular inclined trajectories.

Column 2 gives the peak flux. Columns 3, 4 and 5 indicate the spacecraft position in geocentric coordinates at which the predicted peak flux was encountered. Columns 6, 7 and 8 determine respectively the relative orbit time and the magnetic B-L coordinates for this

event. For the purpose of orbital radiation studies, all simulated trajectories start at t_0 = hours. Finally, the last column indicates the total predicted flux to be encountered during that particular orbit. It is advisable to disregard the last line on this table because many times that orbit is incomplete and the fluxes or positions shown do not correspond to true peaks.

III. Time-Accounting and Exposure-Analysis: Table 4

The "EXPOSURE-ANALYSIS" summary indicates what percent of its total lifetime T the satellite spends in "flux-free" regions of space, what percent of its total lifetime it spends in high intensity proton and electron domains, and while so exposed, what percent of its total flux it accumulates.

In the context of this study, the term "flux-free" applies to all regions of space where trapped particle fluxes are less than one proton or electron per square centimeter per second, having energies $E_p > 5$ MeV, and $E_e > .5$ MeV, respectively. By definition, this includes all regions external to the Van Allen radiation belts.

The concept of "trapped particle fluxes" is meant to include stably trapped, pseudo trapped, and transient fluxes, as long as they are part of or contained in the environment models used and, in the case of transients or pseudos, their sources are considered powerful enough to supply them continuously in substantial numbers.

Similarly, as "high intensity" are defined those regions of space where the instantaneous, integral, omnidirectional, trapped-particle flux is greater than 10^3 protons with energies $E_p > 5$ MeV, and greater than 10^5 electrons with energies $E_e > .5$ MeV.

The values given in these tables are statistical averages, obtained over extended intervals of mission time. However, they may vary significantly from one orbit to the next, when individual revolutions are considered.

The "TIME-ACCOUNT" breakdown shows what percent of its total time the satellite spends in the "inner zone" ($1.0 \leq L < 2.8$) and in the "outer zone" ($2.8 \leq L < 11.0$) electron trapping domains, and also the percent of time spent in regions external to the latter ($L > 11.0$).

It should be noted that the confinement of the outer zone within the boundary of the $L=11.0$ earth radii volume is arbitrary and has no physical meaning. It is intended only as a simplification to facilitate the calculations. The region considered "external" in this study ($L > 11.0$) is still partially a domain of the outer zone, at least as far out as $L=12.0$ earth radii, according to the current environment models.

A last item on this table: the inner zone time is further subdivided into two parts: the percentage of time spent outside ($L < 1.1$) and inside ($1.1 \leq L < 2.8$) the trapping domain.

IV. Solar Flare Proton Fluences and Exposure Factor: Table 5

For the specified mission duration τ (printed in the sub-title), and dipole cut-off shell ($L=5$ earth radii, shown in the header), this table lists the solar proton fluence-spectra (in units of particles per square centimeter) at five discrete confidence levels Q (given at the top of each column).

The exposure factors (in percent of total mission duration) obtained from the geomagnetic shielding analysis are also listed for four dipole cut-off shell values (in earth radii).

Caution: the AL-event solar flare protons are not contributed gradually over the investigated mission duration ($\tau = 3$ years) but are imparted in toto in a relatively short burst, that is, within approximately 2-4 days per AL event.

V. Total Dose and Components: Tables 6-8

These tables list doses in units of rads as a function of aluminum shield thickness, given in three ways: range s in grams per square centimeter, depth t in millimeters, and depth \bar{t} in mils.

Electron, bremsstrahlung, and proton contributions to the overall sumtotal dose are given separately. Electron and proton doses are further broken down into their respective constituents; namely, inner zone and outer zone (if applicable) for the former, trapped and solar flare (if applicable) for the latter.

The specific mission duration for which the doses have been calculated is indicated in the table headline.

VI. Spacecraft Exposure to Heavy Ions: Table 9

For the specified total exposure time (printed in the subtitle) and for the indicated L-Bins (listed in columns 1 and 2), this table gives the rigidity in column 3 (in units of GV), the ion cut-off energy in column 4 (in units of MeV/nucleon), and the corresponding spacecraft exposure profile and accessibility profile in columns 5, 6, 7 and 8. The exposure profile is evaluated in terms of actual time spent in each L-Bin (column 5, in units of hours) and, normalized by the total exposure time, in terms of percent exposure (column 6). The accessibility profile is given for an inverse summation of the actual time spent in the L-Bins (column 7, in units of hours) and, normalized by the total exposure time, in percent (column 8).

VII. Cosmic Ray Spectra: Tables 10-36

Tabulation of average orbit-integrated spectral distribution. One table is printed for each ion specie considered in the study. The ion identification is given in the title. Ion energy is listed in column 1 in units of MeV/nucleon. Column 2 gives the unattenuated, interplanetary differential cosmic ray flux for the given ion. Column 3 gives the magnetospherically attenuated differential flux.

Columns 4 through 15 give the results of passing the attenuated cosmic ray flux through spherical aluminum shields of various radii, where column 4 contains the emerging energy (in units of MeV/nucleon) and columns 5 through 15 contain the emerging fluxes for these energies for 11 shield thicknesses (in gm/cm²) which are indicated in the column heading. These shielded spectra are continued on the next page. All intensities are differential fluxes in units of particles/cm²·day·MeV/nucleon.

B. Graphical Presentation

Some of the tabulated data are also plotted in Figures 1 to 4, and 7 to 15 with additional Figures 5 and 6 containing plots of flight path data. Positional flux and dose data are plotted in Figures 16-26. Cosmic ray data are plotted in Figures 27-55. As with the tables, the computer plots are arranged in ten sets, where again each set pertains to one specific type of data. The first set has two similar members: one for each particle species. The next three sets (second, third and fourth) contain one member. The fifth set contains nine similar members, providing three graphs (for respective depth ranges) for each of three geometries. The sixth set contains two similar members for each trajectory: one for each particle specie. The seventh set has nine members, providing proton, electron, and total dose graphs for each of three geometries. The eighth and and ninth sets contain one member. Finally the tenth set contains 27 members: one for each ion specie considered in this study.

I. Spectral Profiles: Figures 1-2

A graphical presentation of the final composite spectral distribution, obtained from the orbital integration process. The plots are semi-log graphs, where the abscissa is a linear energy scale for integral particle energies E, in MeV, and the ordinate is a logarithmic scale for the fluxes, given in daily averages for energies greater than E; the printed scale values are powers of 10.

II. Peaks Per Orbit: Figures 3-4

Here the absolute peak intensities, encountered per period (1 period = 1 revolution = 1 orbit), are plotted for the duration of the flight-time processed in the analysis. The logarithmic ordinate, with scale values in powers of 10, relates to instantaneous particle fluxes of the environment at the indicated energy thresholds, while the abscissa is a linear orbit enumeration.

III. Trajectory World Map Projections: Figure 5

This graph depicts the surface trace of the geocentrically projected subsatellite positions. The trajectory is plotted for several revolutions on a global map produced by a Miller Cylindrical Projection method. The contours of the continents have been omitted for clarity. The positions of equatorial crossing, of physical perigee, or of period commencement are indicated by numbers identifying the orbits shown in the graphs. For this trajectory, the distance between successive sequential numbers is a measure of the orbit precession. The highlighted portion of the flight path

represents the "worst-case" pass through the South Atlantic Anomaly (SAA) selected for instantaneous Positional Flux and Dose calculations (see subsequent sections 11.B.VI and 11.B.VII).

IV. Flight Path Tracing in B-L Space: Figure 6

Plot showing trajectory traces in B-L space on a semi-log scale. Several orbits are depicted, each identified by its sequential number. The magnetic equator is entered on the plot. The logarithmic ordinate relates to the field strength B in gauss; the printed values are exponents of 10. L is given in earth radii on the linear abscissa.

V. Dose-Depth Curves by Geometry: Figures 7-15

Plots of final depth-dose values for the indicated mission duration. These plots show contours of inner and outer zone electrons, trapped and solar flare protons, bremsstrahlung, and the sumtotal of all contributions.

For ease of use and in order to provide a greater resolution at the more sensitive range of depths (namely the thinner shields) three plots have been generated for each of the three geometries considered, for shield-ranges and subdivisions increasing by one order of magnitude.

The logarithmic ordinate, with scale values in powers of 10, relates aluminum dose in units of rads. The linear abscissa is the shield thickness, given in three different units: range s in grams per square centimeter, depth t in millimeters, depth t in mils.

VI. Positional Flux Plots: Figures 16-17

Plots of instantaneous omnidirectional trapped particle fluxes (electrons and protons) at (up to 10) specified threshold energy levels (>MeV), for a selected orbit (usually worst case revolution through heart of SAA).

The logarithmic ordinate, with scale values in powers of 10, relates to the number of particles per square centimeter per second. The linear abscissa is the relative time, in minutes or hours, from the beginning of the selected orbital pass.

VII. Positional Dose Plots by Geometry: Figures 18-26

Plots of instantaneous omnidirectional trapped particle dose values 10) specified shield thicknesses (omnidirectional isotropic incidence, cosine-theta distribution) for a selected orbit (usually worst case revolution through heart of SAA). Separate plots are generated (if present) for: electron dose (including bremsstrahlung), proton dose, and total dose (no solar proton contributions are included) for dose at transmission surface of aluminum slab shields, dose in semi-infinite aluminum medium, and dose at center of aluminum spheres.

The logarithmic ordinate, with scale values in powers of 10, relates to the respective dose in units of rads-aluminum. The linear abscissa is the relative time, in minutes or hours, from the beginning of the selected orbital pass.

VIII. Cosmic Ray Exposure Profile: Figure 27

This graph shows the relative exposure time to cosmic rays, plotted as a function of mean L-Bin values. The ordinate relates to the actual time spent in each L-Bin normalized by total exposure time and given in percent. The abscissa relates to the mean L-Bin values in units of L.

IX. Accessibility Profile: Figure 28

This graph shows the normalized L-Bin summation plotted versus energy. The ordinate relates to the L-Bin summation values given in percent of the total exposure time for the orbit. The abscissa relates to the ion cut-off energy in units of MeV/nucleon.

X. Cosmic Ray Spectra: Figures 29-55

For each cosmic ray ion specie, a plot of the differential cosmic ray flux data is given. Each plot shows the unattenuated, interplanetary cosmic ray flux, the magnetospherically attenuated flux for the TOPEX spacecraft, and the shielded attenuated cosmic ray fluxes for various spherical aluminum shields of indicated thicknesses.

The logarithmic ordinate, with scale values given in powers of 10, relates to the number of particles per square centimeter per day per MeV/nucleon. The linear abscissa is the ion energy in MeV/nucleon.

12. RESULTS: ANALYSIS AND DISCUSSION

In this section, some of the presented tabular or graphical study-results are discussed, with occasional comments as to their use, limits, and applications.

A. Spectral Profiles

Characteristic features of the near earth radiation environment are strong altitude and inclination dependencies. However, as only one inclination and one altitude was considered in this study, the data do not reflect the important effect of these variables. It should be noted that at high inclination values ($60^\circ < i < 90^\circ$) small changes in either direction, up or down, will not produce significant changes in flux levels and spectral distributions. The greatest inclination dependent variations occur in the range $0^\circ < i < 35^\circ$.

I. Protons:

In the altitude domain of TOPEX, average orbit integrated intensities rise significantly with increasing height. For the investigated trajectory the protons exhibit a relatively hard spectrum. Over the energy range from $E > 30$ MeV to $E > 500$ MeV, the proton distribution

is shown as a nearly straight line in the log-linear plot of Figure 1. It should be noted, however, that the spectrum will not continue in this manner to much higher energies because the conditions for stable trapping break down. Therefore, it is not advisable to extrapolate the spectral curves to still higher energies.

II. Electrons:

The electrons show a complex spectrum. Inner zone and outer zone average, orbit-integrated, composite intensities rise non-uniformly with altitude, particularly at energies above 2 MeV with differences reaching up to several orders of magnitude at $E_e > 5$ MeV. Spectra also extend to higher energies as height increases.

These composite electron distributions cannot be represented by either exponential or power law forms. The inner zone spectra fall rapidly off to zero flux in the energy range from 4 to 5 MeV and they are therefore more benign than their harder out-zone counterparts, which extend to energies of about 7 MeV.

B. Peaks and Totals Per Orbit

The absolute peaks per revolution have been obtained for standard processing energies: $E_p > 5$ MeV for protons and $E_e > .5$ MeV for electrons. Other energy selections produce different peak curves in an inverse relationship: lower energies yield higher intensities and more expanded contours, and vice versa.

Peak value contours of inclined circular trajectories display amplitude variations and sometimes discontinuities (flux-free time) that follow periodic patterns based on the daily cycle of revolutions. For fixed energies, peak magnitudes and discontinuities are functions of: (a) inclination i , and (b) altitude h .

Variations in either i or h may produce significant changes in the amplitude of the peak curves and in the duration of the discontinuities: up to several orders of magnitude for the former, and completely eliminating the latter.

C. Flux-Free Time

Some comments on this topic have been provided in the previous section and in section 11/A/III. Here a more detailed discussion will be given.

Flux-free time (FFT) intervals are an important feature of certain orbital configurations. They may occur over short orbit segments (partial FFT per period) or over the entire length of a revolution (total FFT per period). In terms of geomagnetic geometry, the FFTs establish the duration for which the trajectory lies outside the trapping domain of the corresponding particle specie, evaluated at the given energies. Or conversely, they are a measure of the degree to which the trajectory is exposed to the charged particle trapping domains.

One manifestation of extended FFT occurrence is the sharp drop-off of the proton peak contours to almost the zero-flux level. For some trajectory configurations, this may happen for several orbits in the investigated study-duration of 24 hours. That is, for the entire length of the respective revolutions, no Van Allen belt radiation at all is to be encountered by the satellite, according to model predictions.

The number of consecutive flux-free orbits of circular trajectories is primarily a function of altitude and inclination and to a lesser degree a function of particle energy. For the TOPEX mission, the total FFT in percent of total mission duration, which includes the contributions from partially exposed revolutions (see "Exposure Analysis," Table #5), can be summarized as follows:

	<u>Protons</u> (E > 5 MeV)	<u>Electrons</u> (E > .5 MeV)
Solar Maximum	46%	15%

Generally, higher energies will yield longer FFT's because the more energetic particles occupy a smaller volume of space.

D. Dose and Shielding

At medium-to-high shield thicknesses, the calculated doses display features characteristic of the near earth radiation environment: small contributions from relatively benign and low intensity electron spectra combined with major contributions from comparatively harder proton spectra.

The trapped proton-dose dominance prevails for all shield thicknesses greater than about 120 mils of aluminum for the spherical geometry.

Significant is the fact that, for aluminum, the proton dose is only a weak function of shield thickness, as it shows very little attenuation over a large depth range. Thus, in order to get an appreciable reduction in the dose, say by a factor of 2, a nearly 7-fold increase in shield thickness is necessary. The same is true for the bremsstrahlung dose.

I. Decay and Degradation

The total doses obtained for the 3 year mission duration are severe. In terms of electronics damage or materials degradation, the doses to be experienced inside the satellite, that is, behind an overall (hypothetical) spherical aluminum shield thickness of about 150 mils, are approximately 32 krads, which may be catastrophic for sensitive components or equipment. Electronic parts and circuits that are not radiation hardened, may suffer serious damage. This can result in failures very early in the mission. Parts screening and testing is advisable. Selection of less sensitive parts or substantial shielding may be necessary.

II. Contamination and Interference

It should be remembered, that the direct or indirect effects of the

radiation environment may also be a nuisance in terms of instrument interference or measurement contamination. If such is the case, some remedies may be available (see next section).

III. Possible Improvements

In conclusion, in the event that the magnitude of total dose or the degree of radiation penetration behind the skin of the satellite is of importance to the mission, four possibilities exist to reduce the radiation effects on instruments and components:

- a) build or design an instrument less sensitive to radiation and construct the on-board and/or on-ground data processing software to remove or suppress radiation-induced noise,
- b) select radiation resistant parts,
- c) change the orbit by any combination of the elements eccentricity, altitude, and inclination so as to achieve a more benign environment,
- d) change the mission epoch: solar max for reduced proton intensities, solar min for reduced electron intensities,
- e) provide increased shielding either by geometry or by weight by a combination of both;

by geometry: perform a 3-D analysis (solid angle sectoring) and rearrange other equipment on board the satellite in order to provide maximum protection to sensitive part over greatest possible fraction of solid angle.*

by weight: place additional shields around sensitive part as needed (spot shielding).

Clearly options (a) and (d) are good choices because they can be addressed during the early spacecraft design stages.

* Complex radiation shielding and transport calculations can now be performed at GSFC. It is now possible to address such topics as: (a) material mixtures, cross sections for protons, electrons, heavy charge particles, and neutrons, including source spectra and response functions; (b) source geometry, detector geometry, surfaces, rays, bodies, regions, body intersections, body unions, simple meshes, design bodies, spacecraft rays, with diverse features such as combinatorial options, translate-rotate-replicate capabilities, etc.; (c) heavy charged particle applications-1D transport by numerical integration, small volume pulse height (soft errors), 3D ray trace sectoring, 3D adjoint Monte Carlo; (d) electron bremsstrahlung-1D transport by numerical integration and by adjoint Monte Carlo, small volume pulse height, 3D ray trace sectoring, 3D forward and adjoint Monte Carlo, energy deposition, charging distributions. (For information and cost estimates contact: E. G. Stassinopoulos, NASA-GSFC-NSSDC, Code 601, Greenbelt, Maryland 20771, telephone 301-344-8067).

E. Galactic Cosmic Rays

For the elements from He to Ni, the plots show the unattenuated interplanetary cosmic ray spectra, the magnetospherically attenuated orbit-integrated spectra (incident on the surface of the spacecraft), and, derived from this latter, the shielded spectra of emerging particles behind selected thicknesses of spherical Aluminum geometries. Although not scientifically correct, the cosmic ray incidence may be assumed omnidirectional, for practical application purposes. The error introduced by this simplification lies, for most cases, well within the large intrinsic uncertainties associated with these types of estimates and calculations.

The most important (but predictable and expected) features of the data in Figures 29-55, are:

1. the substantial attenuation by the earth's magnetic field of all particles in the investigated energy domain (10-3000 MeV/n);
2. the insignificant effect of material shielding in the energy range from about 90 to 3000 MeV/n: no substantial decrease in fluxes even for 10 gm/cm² Al (approximately 1.5 inches);
3. the unavoidable shielding side-effect of a significant increase in the low energy (.2-50 MeV/n) fluxes for shield thicknesses > .1 gm/cm² Al.

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***** CREDIT FLUX STUDY WITH COMPOSITE PARTICLE ENVIRONMENT: VETES A90, AEG, AET7 FOR SOLAR MAXIMUM ***** UNJELX OF 15-4 *****
 ** UNCERTAINTY FACTORS (UP) APPLIED FOR THIS RUN ARE: 1. FOR PRACTICES (APPROX) UP= 1.0; FOR INNER ZONE ELECTRONIC (AEG) - UP= 1.0 *****
 ** VEHICLE 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 *****
 ** PER INFORMATION OR EXPLANATION CONTACT EGC STASIAFCULCUL, 11 KASA-GSFC/CCOE 0011 (GREENBELT, MARYLAND 20771) TEL (301) 344-2067 *****

***** SPECTRUM IN PERCENT DELTA ENERGY *****									
ENERGY RANGES >(MEV)	AVERAGE TOTAL FLUX #/CM ² /SEC	AVERAGE TOX FLUX #/CM ² /SEC	SPECTRUM PERCENT	***** COMPOSITE ORBIT SPECTRUM ***** TIME 2.0000 YEAR(S)					
				ENERGY RANGES >(MEV)	AVERAGE TOTAL FLUX #/CM ² /SEC	AVERAGE TOX FLUX #/CM ² /SEC	AVERAGE DIFFERENTIAL #/CM ² /SEC	AVERAGE DIFFERENTIAL #/CM ² /SEC	AVERAGE DIFFERENTIAL #/CM ² /SEC
1000-2.000	9.731E 04	8.070E 05	61.202	0.000-0.11526E 05	1.319E 10	1.444E 12	1.319E 10	1.319E 10	1.319E 10
2.000-5.000	1.344E 03	1.165E 06	0.562	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
5.000-10.000	2.069E 02	1.718E 07	0.176	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
10.000-25.000	5.787E 02	4.653E 07	0.176	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
25.000-50.000	2.920E 02	2.423E 07	0.151	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
50.000-100.00	3.884E 02	2.423E 07	0.151	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
100.0-500.0	3.947E 02	4.214E 07	0.151	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
500.0-EVEN	1.122E 01	9.717E 05	0.007	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
TOTAL	9.714E 04	8.353E 05	62.646	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
***** EXPOSURE INDEX: ENERGY>5.000 MEV *****									
INTENSITY RANGES #/CM ² /SEC	EXPOSURE TOTAL # OF PARTICLES	EXPOSURE TOTAL # OF PARTICLES	EXPOSURE TOTAL # OF PARTICLES						
0.0-1.0E 01	11.082	0.0	0.0	0.000-0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
1.0E 01-1.0E 02	1.527	2.76E 04	2.76E 04	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
1.0E 02-1.0E 03	1.527	4.714E 04	4.714E 04	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
1.0E 03-1.0E 04	4.300	5.732E 04	5.732E 04	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
1.0E 04-1.0E 05	1.150	1.420E 04	1.420E 04	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
1.0E 05-1.0E 06	0.0	0.0	0.0	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
1.0E 06-EVEN	0.0	0.0	0.0	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10
TOTAL	24.000	2.055E 06	2.055E 06	0.11526E 05	1.344E 10	1.444E 12	1.344E 10	1.344E 10	1.344E 10

TABLE 1

TABLE 2

***** SPECTRUM IN PERCENT DELTA ENERGY *****									
ENERGY RANGES (MEV)	AVERAGED TOTAL FLUX #/CM**2/SEC	AVERAGED TOTAL FLUX #/CM**2/2 DAY	SPECTRUM PERCENT						
1.000-1.500	1.10E-09	3.95E-10	61.92E						
1.500-2.000	1.00E-09	1.80E-09	3.24E						
2.000-2.500	2.00E-09	7.93E-09	6.13E						
2.500-3.000	4.47E-09	3.66E-08	6.67E						
3.000-3.500	1.30E-08	1.17E-08	6.6E						
3.500-4.000	2.55E-08	1.17E-08	6.6E						
4.000-4.500	1.10E-08	9.21E-09	6.6E						
4.500-5.000	4.25E-08	2.67E-08	11.65.46E						
TOTAL									
***** EXPOSURE INDEX: ENERGY>5.000 MEV *****									
INTENSITY RANGES - #/CM**2/SEC	EXPOSURE - BMSATON	TOTAL # OF ACCUMULATED PARTICLES							
70E-06	3.40E	0.02E							
1.0E-05	6.68E	1.44E							
1.1E-05	1.66E	3.42E							
1.2E-05	2.41E	4.81E							
1.3E-05	2.77E	5.67E							
1.5E-05	6.41E	1.44E							
1.6E-05	0.00	0.00							
TOTAL	24.000	1.255E	10						

** CERIAL FLUX STUDY WITH COMPOSITE PARTICLE ENVIRONMENTS: NETES A89: A66: A517 FOR SOLAR MAXIMUM *** UNIFLUX OF 1564 ***
** UNCERTAINTY FACTORS (UF) APPLIED FOR THIS RUN ARE: FOR FACTORS (AP8) - UF= 1.0: FCR INNER ZONE ELECTRONS (AEG) - UF= 1.0 ***
** MAGNETIC COORDINATES B AND L COMPUTED BY INARA OF 1572 WITH ALL PAGES. MCDEL 4: BARRAGLOUP ET AL. 16-TRM 1575 * TIME= 1985.2 ***
** VEHICLE - TOPEX 3 YEAR ** INCLINATION= 334KM ** PERIGEE= 1334KM ** APOGEE= 1334KM ** B/L CREDIT TAPE: 2057C PERIOD= 341.627 ***
** FOR INFORMATION OF EXPLANATION CONTACT E.G. STASSIACPOULCS AT NASA-GSFC CODE 601. GREENBELT, MARYLAND 20771 TEL: (301)-344-2067 ***

** TABLE OF PEAK AND TOTAL FLUXES PER PERIC: ENERGY > 5.000MEV **

PERIC NUMBER	PEAK FLUX ENCOUNTERED #/CM ² /SEC	POSITION AT WHICH ENCOUNTERED LONGITUDE (DEG)	LATITUDE (DEG)	CREIT TIME (HOURS)	FIELDC (E) (CAUSS)	LINE(L) (E-R)	TOTAL FLUX PER ORBIT #/CM ² /ORBIT
1	1.735E C4	-2.477	1326.23	1.05000	0.16299	1.2	1.42E C7
2	2.841E C4	-1.440	1331.3	4.50000	0.14167	1.2	2.58E C7
3	1.401E C4	-1.122	1335.43	6.68333	0.15890	1.2	1.42E C7
4	1.118E C4	-23.46	1335.43	9.16667	0.11798	2.02	1.12E C7
5	1.555E C4	-31.62	1335.74	11.10000	0.16648	1.00	1.46E C7
6	1.766E C4	-2.445	1335.74	12.95000	0.14969	1.00	2.17E C7
7	1.277E C4	-3.415	1335.74	16.70000	0.12462	1.00	1.45E C7
8	1.277E C4	-13.26	1335.74	16.70000	0.12462	1.00	1.45E C7
9	1.566E C3	-15.284	1334.02	16.66664	0.18444	1.41	4.40E C6
10	2.065E C3	1.247	1334.02	20.54999	0.17750	1.21	1.54E C6
11	2.065E C3	42.613	1337.00	21.58331	0.18444	1.41	1.54E C6
12	2.065E C3	-13.65	1337.00	21.58331	0.18444	1.41	1.54E C6

** CERIAL FLUX STUDY WITH COMPOSITE PARTICLE ENVIRONMENTS: NETES A89: A66: A517 FOR SOLAR MAXIMUM *** UNIFLUX OF 1564 ***
** UNCERTAINTY FACTORS (UF) APPLIED FOR THIS RUN ARE: FOR FACTORS (AP8) - UF= 1.0: FCR INNER ZONE ELECTRONS (AEG) - UF= 1.0 ***
** MAGNETIC COORDINATES B AND L COMPUTED BY INARA OF 1572 WITH ALL PAGES. MCDEL 4: BARRAGLOUP ET AL. 16-TRM 1575 * TIME= 1985.2 ***
** VEHICLE - TOPEX 3 YEAR ** INCLINATION= 334KM ** PERIGEE= 1334KM ** APOGEE= 1334KM ** B/L CREDIT TAPE: 2057C PERIOD= 341.627 ***
** FOR INFORMATION OF EXPLANATION CONTACT E.G. STASSIACPOULCS AT NASA-GSFC CODE 601. GREENBELT, MARYLAND 20771 TEL: (301)-344-2067 ***

** TABLE OF PEAK AND TOTAL FLUXES PER PERIC: ENERGY > 5.000MEV **

PERIC NUMBER	PEAK FLUX ENCOUNTERED #/CM ² /SEC	POSITION AT WHICH ENCOUNTERED LONGITUDE (DEG)	LATITUDE (DEG)	CREIT TIME (HOURS)	FIELDC (E) (CAUSS)	LINE(L) (E-R)	TOTAL FLUX PER ORBIT #/CM ² /ORBIT
1	1.373E C6	-6.441	11.13	1.00000	0.15909	1.26	1.42E C6
2	2.152E C6	-1.478	1326.49	2.91667	0.14567	1.40	1.57E C6
3	2.152E C6	-4.053	1331.4	4.50000	0.14567	1.40	1.57E C6
4	1.505E C5	-2.445	1334.80	9.16667	0.17968	1.42	1.73E C6
5	1.505E C5	-7.447	1334.80	11.15000	0.17968	1.42	1.73E C6
6	1.505E C5	-2.445	1335.42	12.98333	0.14922	1.42	1.54E C6
7	1.505E C5	-16.35	1337.33	14.78333	0.14716	1.42	1.71E C6
8	1.077E C6	-2.442	1337.33	16.66664	0.16284	1.42	1.54E C6
9	1.077E C6	-27.41	1337.33	16.66664	0.16284	1.42	1.54E C6
10	2.408E C5	-6.580	1337.4	19.23331	0.15782	4.74	2.48E C6
11	2.408E C5	42.413	1337.00	21.58331	0.15446	1.41	4.23E C6
12	2.408E C5	-13.65	1337.00	21.58331	0.15446	1.41	4.23E C6

TABLE 3

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OF POOR QUALITY

TABLE -		TABLE -	
TYPE 3 YEAR		TYPE 2 YEAR	
CIRCULAR		CIRCULAR	
INCLINATION: 63 DEG		INCLINATION: 62 DEG	
PERIGEE: 1324 KM		PERIGEE: 1324 KM	
APOGEE: 1324 KM		APOGEE: 1324 KM	
0000 EXPOSURE ANALYSIS 0000		* PERCENT OF TOTAL LIFETIME SPENT INSIDE AND *	
PROTONS		* OUTSIDE THE TRAPPED-PARTICLE RADIATION BELT *	
(E>1.00(MEV))		INNER ZONE -T1-0 :	
ELECTRONS L		(1.0 < L < 2.0)	
(E>500(MEV))		OUTER ZONE -T0- :	
PERCENT OF TOTAL LIFE- TIME SPENT IN FLUX-FREE -PERIGEE-CE-SPACE :		(2.0 < L < 11.0)	
46.10 %		EXTERNAL -TE- :	
PERCENT OF TOTAL LIFE- TIME SPENT IN HIGH- INTENSITY REGIONS OF VAN ALLEN BELTS :		(L > 11.0)	
26.42 %		TOTAL :	
34.65 %		100.00 %	
PERCENT OF TOTAL DAILY FLUX ACCUMULATED IN HIGH-INTENSITY REGIONS:		* TIME IN INNER ZONE MAY BE SUBDIVIDED AS FOLLOWS:	
93.34 %		OUTSIDE TRAPPING REGION :	
93.34 %		(1.0 < L < 1.1)	
INSIDE TRAPPING REGION :		45.25 %	
(1.1 < L < 2.0)		(1.1 < L < 2.0)	
*****		*****	
* < 1 PARTICLE/CM ² /SEC		* < 1 PARTICLE/CM ² /SEC	
* > 1.00 EL/CM ² /SEC OR 1.00 PR/CM ² /SEC		* > 1.00 EL/CM ² /SEC OR 1.00 PR/CM ² /SEC	

TABLE 4

1. The first part of the document is a title page. It contains the title "The Role of the State in the Development of the Economy" and the author's name "John Doe".

2. The second part is an abstract. It summarizes the main points of the document, stating that the state plays a crucial role in the development of the economy, particularly in the areas of infrastructure, education, and healthcare.

3. The third part is the introduction. It discusses the importance of the state in the development of the economy and the challenges it faces. It also mentions the author's research methodology, which is based on a combination of theoretical analysis and empirical data.

4. The fourth part is the main body of the document. It is divided into several sections, each focusing on a different aspect of the state's role in the economy. The first section discusses the state's role in the provision of public goods, such as infrastructure and education. The second section discusses the state's role in the regulation of the economy, particularly in the areas of competition and consumer protection. The third section discusses the state's role in the provision of social services, such as healthcare and social security.

5. The fifth part is the conclusion. It summarizes the main findings of the document and offers some recommendations for the future. It states that the state should continue to play a central role in the development of the economy, particularly in the areas of infrastructure, education, and healthcare.

6. The sixth part is the bibliography. It lists the sources used by the author in the document, including books, articles, and websites.

7. The seventh part is the appendix. It contains additional information that is not included in the main body of the document, such as data tables and charts.

8. The eighth part is the index. It provides a list of keywords and their corresponding page numbers, making it easier for the reader to find specific information in the document.

9. The ninth part is the cover page. It contains the title and author's name, along with a decorative border.

10. The tenth part is the back cover. It contains the title and author's name, along with a decorative border.

1/1/02	OPENING BALANCE		100.00
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3/15/02	PAYROLL	50.00	210.00
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7/15/02	PAYROLL	50.00	330.00
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10/1/02	RENT	20.00	370.00
10/15/02	PAYROLL	50.00	420.00
11/1/02	RENT	20.00	400.00
11/15/02	PAYROLL	50.00	450.00
12/1/02	RENT	20.00	430.00
12/15/02	PAYROLL	50.00	480.00
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1/15/03	PAYROLL	50.00	510.00
2/1/03	RENT	20.00	490.00
2/15/03	PAYROLL	50.00	540.00
3/1/03	RENT	20.00	520.00
3/15/03	PAYROLL	50.00	570.00
4/1/03	RENT	20.00	550.00
4/15/03	PAYROLL	50.00	600.00
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6/15/03	PAYROLL	50.00	660.00
7/1/03	RENT	20.00	640.00
7/15/03	PAYROLL	50.00	690.00
8/1/03	RENT	20.00	670.00
8/15/03	PAYROLL	50.00	720.00
9/1/03	RENT	20.00	700.00
9/15/03	PAYROLL	50.00	750.00
10/1/03	RENT	20.00	730.00
10/15/03	PAYROLL	50.00	780.00
11/1/03	RENT	20.00	760.00
11/15/03	PAYROLL	50.00	810.00
12/1/03	RENT	20.00	790.00
12/15/03	PAYROLL	50.00	840.00
1/1/04	RENT	20.00	820.00
1/15/04	PAYROLL	50.00	870.00
2/1/04	RENT	20.00	850.00
2/15/04	PAYROLL	50.00	900.00
3/1/04	RENT	20.00	880.00
3/15/04	PAYROLL	50.00	930.00
4/1/04	RENT	20.00	910.00
4/15/04	PAYROLL	50.00	960.00
5/1/04	RENT	20.00	940.00
5/15/04	PAYROLL	50.00	990.00
6/1/04	RENT	20.00	970.00
6/15/04	PAYROLL	50.00	1020.00
7/1/04	RENT	20.00	1000.00
7/15/04	PAYROLL	50.00	1050.00
8/1/04	RENT	20.00	1030.00
8/15/04	PAYROLL	50.00	1080.00
9/1/04	RENT	20.00	1060.00
9/15/04	PAYROLL	50.00	1110.00
10/1/04	RENT	20.00	1090.00
10/15/04	PAYROLL	50.00	1140.00
11/1/04	RENT	20.00	1120.00
11/15/04	PAYROLL	50.00	1170.00
12/1/04	RENT	20.00	1150.00
12/15/04	PAYROLL	50.00	1200.00
1/1/05	RENT	20.00	1180.00
1/15/05	PAYROLL	50.00	1230.00
2/1/05	RENT	20.00	1210.00
2/15/05	PAYROLL	50.00	1260.00
3/1/05	RENT	20.00	1240.00
3/15/05	PAYROLL	50.00	1290.00
4/1/05	RENT	20.00	1270.00
4/15/05	PAYROLL	50.00	1320.00
5/1/05	RENT	20.00	1300.00
5/15/05	PAYROLL	50.00	1350.00
6/1/05	RENT	20.00	1330.00
6/15/05	PAYROLL	50.00	1380.00
7/1/05	RENT	20.00	1360.00
7/15/05	PAYROLL	50.00	1410.00
8/1/05	RENT	20.00	1390.00
8/15/05	PAYROLL	50.00	1440.00
9/1/05	RENT	20.00	1420.00
9/15/05	PAYROLL	50.00	1470.00
10/1/05	RENT	20.00	1450.00
10/15/05	PAYROLL	50.00	1500.00
11/1/05	RENT	20.00	1480.00
11/15/05	PAYROLL	50.00	1530.00
12/1/05	RENT	20.00	1510.00
12/15/05	PAYROLL	50.00	1560.00
1/1/06	RENT	20.00	1540.00
1/15/06	PAYROLL	50.00	1590.00
2/1/06	RENT	20.00	1570.00
2/15/06	PAYROLL	50.00	1620.00
3/1/06	RENT	20.00	1600.00
3/15/06	PAYROLL	50.00	1650.00
4/1/06	RENT	20.00	1630.00
4/15/06	PAYROLL	50.00	1680.00
5/1/06	RENT	20.00	1660.00
5/15/06	PAYROLL	50.00	1710.00
6/1/06	RENT	20.00	1690.00
6/15/06	PAYROLL	50.00	1740.00
7/1/06	RENT	20.00	1720.00
7/15/06	PAYROLL	50.00	1770.00
8/1/06	RENT	20.00	1750.00
8/15/06	PAYROLL	50.00	1800.00
9/1/06	RENT	20.00	1780.00
9/15/06	PAYROLL	50.00	1830.00
10/1/06	RENT	20.00	1810.00
10/15/06	PAYROLL	50.00	1860.00
11/1/06	RENT	20.00	1840.00
11/15/06	PAYROLL	50.00	1890.00
12/1/06	RENT	20.00	1870.00
12/15/06	PAYROLL	50.00	1920.00
1/1/07	RENT	20.00	1900.00
1/15/07	PAYROLL	50.00	1950.00
2/1/07	RENT	20.00	1930.00
2/15/07	PAYROLL	50.00	1980.00
3/1/07	RENT	20.00	1960.00
3/15/07	PAYROLL	50.00	2010.00
4/1/07	RENT	20.00	1990.00
4/15/07	PAYROLL	50.00	2040.00
5/1/07	RENT	20.00	2020.00
5/15/07	PAYROLL	50.00	2070.00
6/1/07	RENT	20.00	2050.00
6/15/07	PAYROLL	50.00	2100.00
7/1/07	RENT	20.00	2080.00
7/15/07	PAYROLL	50.00	2130.00
8/1/07	RENT	20.00	2110.00
8/15/07	PAYROLL	50.00	2160.00
9/1/07	RENT	20.00	2140.00
9/15/07	PAYROLL	50.00	2190.00
10/1/07	RENT	20.00	2170.00
10/15/07	PAYROLL	50.00	2220.00
11/1/07	RENT	20.00	2200.00
11/15/07	PAYROLL	50.00	2250.00
12/1/07	RENT	20.00	2230.00
12/15/07	PAYROLL	50.00	2280.00
1/1/08	RENT	20.00	2260.00
1/15/08	PAYROLL	50.00	2310.00
2/1/08	RENT	20.00	2290.00
2/15/08	PAYROLL	50.00	2340.00
3/1/08	RENT	20.00	2320.00
3/15/08	PAYROLL	50.00	2370.00
4/1/08	RENT	20.00	2350.00
4/15/08	PAYROLL	50.00	2400.00
5/1/08	RENT	20.00	2380.00
5/15/08	PAYROLL	50.00	2430.00
6/1/08	RENT	20.00	2410.00
6/15/08	PAYROLL	50.00	2460.00
7/1/08	RENT	20.00	2440.00
7/15/08	PAYROLL	50.00	2490.00
8/1/08	RENT	20.00	2470.00
8/15/08	PAYROLL	50.00	2520.00
9/1/08	RENT	20.00	2500.00
9/15/08	PAYROLL	50.00	2550.00
10/1/08	RENT	20.00	2530.00
10/15/08	PAYROLL	50.00	2580.00
11/1/08	RENT	20.00	2560.00
11/15/08	PAYROLL	50.00	2610.00
12/1/08	RENT	20.00	2590.00
12/15/08	PAYROLL	50.00	2640.00
1/1/09	RENT	20.00	2620.00
1/15/09	PAYROLL	50.00	2670.00
2/1/09	RENT	20.00	2650.00
2/15/09	PAYROLL	50.00	2700.00
3/1/09	RENT	20.00	2680.00
3/15/09	PAYROLL	50.00	2730.00
4/1/09	RENT	20.00	2710.00
4/15/09	PAYROLL	50.00	2760.00
5/1/09	RENT	20.00	2740.00
5/15/09	PAYROLL	50.00	2790.00
6/1/09	RENT	20.00	2770.00
6/15/09	PAYROLL	50.00	2820.00
7/1/09	RENT	20.00	2800.00
7/15/09	PAYROLL	50.00	2850.00
8/1/09	RENT	20.00	2830.00
8/15/09	PAYROLL	50.00	2880.00
9/1/09	RENT	20.00	2860.00
9/15/09	PAYROLL	50.00	2910.00
10/1/09	RENT	20.00	2890.00
10/15/09	PAYROLL	50.00	2940.00
11/1/09	RENT	20.00	2920.00
11/15/09	PAYROLL	50.00	2970.00
12/1/09	RENT	20.00	2950.00
12/15/09	PAYROLL	50.00	3000.00
1/1/10	RENT	20.00	2980.00
1/15/10	PAYROLL	50.00	3030.00
2/1/10	RENT	20.00	3010.00
2/15/10	PAYROLL	50.00	3060.00
3/1/10	RENT	20.00	3040.00
3/15/10	PAYROLL	50.00	3090.00
4/1/10	RENT	20.00	3070.00
4/15/10	PAYROLL	50.00	3120.00
5/1/10	RENT	20.00	3100.00
5/15/10	PAYROLL	50.00	3150.00
6/1/10	RENT	20.00	3130.00
6/15/10	PAYROLL	50.00	3180.00
7/1/10	RENT	20.00	3160.00
7/15/10	PAYROLL	50.00	3210.00
8/1/10	RENT	20.00	3190.00
8/15/10	PAYROLL	50.00	3240.00
9/1/10	RENT	20.00	3220.00
9/15/10	PAYROLL	50.00	3270.00
10/1/10	RENT	20.00	3250.00
10/15/10	PAYROLL	50.00	3300.00
11/1/10	RENT	20.00	3280.00
11/15/10	PAYROLL	50.00	3330.00
12/1/10	RENT	20.00	3310.00
12/15/10	PAYROLL	50.00	3360.00
1/1/11	RENT	20.00	3340.00
1/15/11	PAYROLL	50.00	3390.00
2/1/11	RENT	20.00	3370.00
2/15/11	PAYROLL	50.00	3420.00
3/1/11	RENT	20.00	3400.00
3/15/11	PAYROLL	50.00	3450.00
4/1/11	RENT	20.00	3430.00
4/15/11	PAYROLL	50.00	3480.00
5/1/11	RENT	20.00	3460.00
5/15/11	PAYROLL	50.00	3510.00
6/1/11	RENT	20.00	3490.00
6/15/11	PAYROLL	50.00	3540.00
7/1/11	RENT	20.00	3520.00
7/15/11	PAYROLL	50.00	3570.00
8/1/11	RENT	20.00	3550.00
8/15/11	PAYROLL	50.00	3600.00
9/1/11	RENT	20.00	3580.00
9/15/11	PAYROLL	50.00	3630.00
10/1/11	RENT	20.00	3610.00
10/15/11	PAYROLL	50.00	3660.00
11/1/11	RENT	20.00	3640.00
11/15/11	PAYROLL	50.00	3690.00
12/1/11	RENT	20.00	3670.00
12/15/11	PAYROLL	50.00	3720.00
1/1/12	RENT	20.00	3700.00
1/15/12	PAYROLL	50.00	3750.00
2/1/12	RENT	20.00	3730.00
2/15/12	PAYROLL	50.00	3780.00
3/1/12	RENT	20.00	3760.00
3/15/12	PAYROLL	50.00	3810.00
4/1/12	RENT	20.00	3790.00
4/15/12	PAYROLL	50.00	3840.00
5/1/12	RENT	20.00	3820.00
5/15/12	PAYROLL	50.00	3870.00
6/1/12	RENT	20.00	3850.00
6/15/12	PAYROLL	50.00	3900.00
7/1/12	RENT	20.00	3880.00
7/15/12	PAYROLL	50.00	3930.00
8/1/12	RENT	20.00	3910.00
8/15/12	PAYROLL	50.00	3960.00
9/1/12	RENT	20.00	3940.00
9/15/12	PAYROLL	50.00	3990.00
10/1/12	RENT	20.00	3970.00
10/15/12	PAYROLL	50.00	4020.00
11/1/12	RENT	20.00	4000.00
11/15/12	PAYROLL	50.00	4050.00
12/1/12	RENT	20.00	4030.00
12/15/12	PAYROLL	50.00	4080.00
1/1/13	RENT	20.00	4060.00
1/15/13	PAYROLL	50.00	4110.00
2/1/13	RENT	20.00	4090.00
2/15/13	PAYROLL	50.00	4140.00
3/1/13	RENT	20.00	4120.00
3/15/13	PAYROLL	50.00	4170.00
4/1/13	RENT	20.00	4150.00
4/15/13	PAYROLL	50.00	4200.00
5/1/13	RENT	20.00	4180.00
5/15/13	PAYROLL	50.00	4230.00
6/1/13	RENT	20.00	4210.00
6/15/13	PAYROLL	50.00	4260.00
7/1/13	RENT	20.00	4240.00
7/15/13	PAYROLL	50.00	4290.00
8/1/			



ORIGINAL PAGE IS
OF POOR QUALITY

** ORBITAL FLUX STUDY WITH COMPOSITE PARTICLE TRACKS *****
** UNCERTAINTY FACTORS (UF) APPLIED FOR THIS RUN ARE: FGR FRICKS (APR) - UF=1.0; FGR INNER ZONE ELECTRONS (AEG) UF=1.0
** MAGNETIC COORDINATES 8 AND L COMPUTED BY INARA OF 1972 WITH ALLPAG. MODEL 4: EARRAQUOCH ET AL. 14-TRM 1975 & TIME=1989.2
** VEHICLE - TOPEX 3 YEAR 88 INCLINATION 30 DEG 88 PERIGEE 133388 88 APOGEE 133838 88 BUL OREY ET AL. 133838 88 PERIOD=1.872 88
** FOR INFORMATION OR EXPLANATION CONTACT E.G. STASSINPOULIS AT NASA-GSFC CODE 01. GREENBELT, MARYLAND 20771-TEL. (301)-344-2067

** DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB C-10ELS ***
** MISSION DURATION: 3.0000 YEAR(S) ***

SHIELD THICKNESS		ELECTRONS**		BREMSSTR- ALUMINUM		TRAPPED**		PROTONS		TOTAL	
S (ALUMINUM)		I (WLS)		INNER ZN		OUTER ZN		TOTAL		DOSE	
UGM/CM2 (MP)		(WLS)		(TRAPD-RL)		(TRAPD-RL)		(TRAPD-RL)		(TRAPD-RL)	
0.01	0.09	1	2.27E 06	1.17E 09	5.55E 06	2.38E 03	1.02E 02	6.01E 02	1.61E 02	5.74E 06	06
0.02	0.09	2	2.51E 06	1.42E 09	7.11E 06	1.88E 03	1.02E 02	6.11E 02	1.61E 02	5.74E 06	06
0.04	0.18	4	1.14E 06	1.14E 09	1.28E 06	1.24E 03	4.07E 02	6.22E 02	1.61E 02	5.74E 06	06
0.05	0.19	7	7.65E 05	5.22E 08	6.78E 05	1.05E 03	3.84E 02	6.25E 02	1.61E 02	5.74E 06	06
0.06	0.22	9	5.42E 05	7.67E 08	4.21E 05	8.08E 02	3.40E 02	6.27E 02	1.61E 02	5.74E 06	06
0.07	0.26	10	3.87E 05	5.70E 08	4.31E 05	7.80E 02	3.05E 02	6.27E 02	1.61E 02	5.74E 06	06
0.08	0.30	12	2.77E 05	5.51E 08	3.36E 05	6.87E 02	2.79E 02	6.27E 02	1.61E 02	5.74E 06	06
0.10	0.33	13	2.53E 05	5.51E 08	3.27E 05	6.32E 02	2.59E 02	6.27E 02	1.61E 02	5.74E 06	06
0.20	0.64	29	2.53E 05	2.10E 08	4.57E 04	2.23E 02	1.86E 02	6.28E 02	1.61E 02	5.74E 06	06
0.30	1.11	44	8.33E 04	1.31E 08	2.19E 04	2.05E 02	1.42E 02	6.28E 02	1.61E 02	5.74E 06	06
0.40	1.48	58	4.21E 04	5.40E 07	1.27E 04	1.02E 02	9.28E 02	6.28E 02	1.61E 02	5.74E 06	06
0.50	1.85	73	2.44E 04	3.17E 07	7.34E 03	1.32E 02	5.00E 02	6.28E 02	1.61E 02	5.74E 06	06
0.60	2.22	87	1.72E 04	1.72E 07	2.46E 03	8.10E 02	6.44E 02	6.28E 02	1.61E 02	5.74E 06	06
0.80	3.00	146	2.27E 03	9.47E 06	1.20E 03	5.28E 02	5.40E 02	6.28E 02	1.61E 02	5.74E 06	06
1.00	4.00	219	6.21E 03	4.47E 06	1.68E 02	5.15E 02	4.89E 02	6.28E 02	1.61E 02	5.74E 06	06
1.25	5.63	289	1.05E 03	1.52E 06	2.02E 02	5.15E 02	4.71E 02	6.28E 02	1.61E 02	5.74E 06	06
1.50	7.48	368	1.24E 03	7.30E 05	2.47E 02	4.92E 02	4.14E 02	6.28E 02	1.61E 02	5.74E 06	06
1.75	9.64	445	1.37E 03	1.56E 05	2.56E 02	3.84E 02	3.59E 02	6.28E 02	1.61E 02	5.74E 06	06
2.00	11.71	517	0.0	0.0	2.58E 02	2.00E 02	3.08E 02	6.28E 02	1.61E 02	5.74E 06	06
2.50	17.56	516	0.0	0.0	6.01E 02	2.55E 02	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06
3.00	24.51	583	0.0	0.0	0.0	2.59E 02	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06
4.00	40.61	650	0.0	0.0	0.0	2.07E 02	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06
5.00	57.33	715	0.0	0.0	0.0	1.89E 02	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06
6.00	74.75	778	0.0	0.0	0.0	1.70E 02	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06
8.00	116.7	1167	0.0	0.0	0.0	1.20E 02	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06
10.00	145.9	1459	0.0	0.0	0.0	9.39E 00	2.81E 02	6.28E 02	1.61E 02	5.74E 06	06

** ELECTRON MODELS:
AEG: INNER ZONE-SOLAR MAX
MC UNCERTAINTY FACTOR BMS APPLIED TO THE MODEL DATA.
SOLPEC: SOLAR FLARE PROTONS AT 1 AU
(UNTEMPERATED, INTERPLANETARY)
FOR CUTOFF DIPOLE SPECT OF 5 E.P.
FOR TAU=26.40+0.96X: # OF AL EVENTS=2
86.52% GEOMAGNETIC SHIELDING APPLIED
NOTE: C DENOTES THE DEGREE OF CONFIDENCE ONE IN THE
SPECIFIC MISSION DURATION THE CALCULATED
FLUENCES ARE THE SMALLEST VALUES WHICH WILL
NOT BE EXCEEDED BY ACTUALLY ENCOUNTERED
INTENSITIES.
IT IS NOT ADVISABLE TO EXTRAPOLATE THE SOLAR
PROTON SPECTRA EITHER TOWARDS LOWER NOR
TOWARDS HIGHER ENERGIES BECAUSE THE DATA SETS
USED IN THE CONSTRUCTION OF THE MODEL (SATEL-
LITE MEASUREMENTS MADE DURING THE 20TH SOLAR
CYCLE: 1964-1972) DO NOT CONTAIN INFORMATION
FOR E<10 AND E>22C (MEV).

TABLE 6

[illegible]

† ENERGY AT MEAN L-VALUE
‡ NORMALIZATION BY TOTAL EXPOSURE TIME CONSIDERED IN THIS ANALYSIS (RELATIVE TIME)

TABLE 9

ORIGINAL PAGE 12
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR 1 HE
MODEL BUBBLE TIME: 19.2 GCM - FROM 5723
(ATOMIC NUM= 2; ATOMIC W= 9.00)
03-0 050-1334-1334-2M

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²DAYS/MEV/NI)

SHIELD THICKNESS (60/GCM²)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	8.00E+00	6.98E-01	0.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-02	7.38E-02	9.23E-02	1.72E-01	1.32E-01	1.59E-01
14	9.00E+00	7.98E-01	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.37E-02	7.14E-02	8.94E-02	1.53E-01	1.20E-01	1.54E-01
16	9.00E+00	7.98E-01	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.17E-02	6.94E-02	8.70E-02	1.40E-01	1.07E-01	1.41E-01
18	9.00E+00	7.98E-01	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.18E-02	6.96E-02	8.71E-02	1.40E-01	1.07E-01	1.41E-01
20	9.00E+00	7.98E-01	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.03E-02	6.80E-02	8.56E-02	1.31E-01	1.00E-01	1.34E-01
23	1.02E+01	1.07E+00	0.41	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
26	1.14E+01	1.26E+00	0.44	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
30	1.40E+01	1.45E+00	0.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
34	1.40E+01	1.45E+00	0.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
40	1.74E+01	2.17E+00	0.53	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
46	1.74E+01	2.17E+00	0.53	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
50	2.10E+01	2.26E+00	0.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
54	2.44E+01	2.26E+00	0.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
60	2.73E+01	3.66E+00	0.59	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
74	2.73E+01	3.66E+00	0.59	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
76	2.73E+01	3.66E+00	0.59	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
80	3.04E+01	5.24E+00	1.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
90	3.04E+01	5.24E+00	1.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
91	3.04E+01	5.24E+00	1.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
100	3.77E+01	6.95E+00	1.56	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
101	3.77E+01	6.95E+00	1.56	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
123	3.77E+01	6.95E+00	1.56	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
133	3.77E+01	6.95E+00	1.56	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
162	4.02E+01	1.10E+01	3.47	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
200	4.44E+01	1.16E+01	3.56	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
249	4.44E+01	1.16E+01	4.04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
306	4.44E+01	1.16E+01	4.53	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
377	4.44E+01	1.16E+01	5.19	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
400	3.76E+01	1.16E+01	6.33	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
509	2.66E+01	1.05E+01	7.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
559	2.66E+01	1.05E+01	8.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
600	2.66E+01	1.05E+01	9.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
700	1.00E+01	0.33E+00	10.43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
800	1.00E+01	0.33E+00	13.43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
865	1.00E+01	0.33E+00	15.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
900	1.00E+01	0.33E+00	17.08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
1000	1.00E+01	0.33E+00	19.26	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
1445	3.00E+00	3.20E+00	24.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
2000	3.00E+00	3.20E+00	27.62	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
3511	1.00E+00	1.00E+00	35.11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01
2977	1.00E+00	1.00E+00	29.77	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-02	7.23E-02	9.00E-02	1.55E-01	1.34E-01	1.56E-01

TABLE 10 A

TABLE 10B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: L1
MODEL= BARR: TIME= 1989.2.0; REPID= 1.8723
(ATOMIC-NUM= 3; ATOMIC-W= 6.94)
63.0 DEG/133-133 KM

MAGNETOSPHERICALLY

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

				SHIELD THICKNESS (GM/CM**2)										
EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	3.53E-02	2.86E-03	0.23	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.81E-04	4.25E-04	7.0E-04	6.5E-04	7.7E-04	8.68E-04
14	3.28E-02	2.65E-03	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.55E-04	3.98E-04	6.5E-04	6.0E-04	7.1E-04	8.00E-04
16	3.02E-02	2.45E-03	0.29	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.30E-04	3.72E-04	6.0E-04	5.5E-04	6.6E-04	7.50E-04
18	2.76E-02	2.25E-03	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-04	3.47E-04	5.5E-04	5.0E-04	6.1E-04	7.00E-04
20	2.50E-02	2.05E-03	0.34	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.80E-04	3.22E-04	5.0E-04	4.5E-04	5.6E-04	6.50E-04
22	2.24E-02	1.85E-03	0.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.55E-04	2.97E-04	4.5E-04	4.0E-04	5.1E-04	6.00E-04
24	2.00E-02	1.65E-03	0.38	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E-04	2.72E-04	4.0E-04	3.5E-04	4.6E-04	5.50E-04
26	1.76E-02	1.45E-03	0.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-04	2.47E-04	3.5E-04	3.0E-04	4.1E-04	5.00E-04
28	1.52E-02	1.25E-03	0.42	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-04	2.22E-04	3.0E-04	2.5E-04	3.6E-04	4.50E-04
30	1.28E-02	1.05E-03	0.44	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	1.97E-04	2.5E-04	2.0E-04	3.1E-04	4.00E-04
32	1.04E-02	8.5E-04	0.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-04	1.72E-04	2.0E-04	1.5E-04	2.6E-04	3.50E-04
34	8.0E-03	6.5E-04	0.48	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-04	1.47E-04	1.5E-04	1.0E-04	2.1E-04	3.00E-04
36	5.6E-03	4.5E-04	0.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.0E-05	1.12E-04	1.0E-04	5.0E-05	1.6E-04	2.50E-04
38	3.2E-03	2.5E-04	0.52	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.5E-05	7.7E-05	5.0E-05	2.5E-05	1.1E-04	2.00E-04
40	7.12E-03	9.10E-04	0.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0E-05	4.2E-05	2.5E-05	1.0E-05	5.0E-05	1.00E-04
42	4.8E-03	6.1E-04	0.56	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.5E-05	2.1E-05	1.0E-05	5.0E-06	2.5E-05	5.0E-05
44	2.6E-03	3.3E-04	0.58	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.5E-06	1.0E-05	5.0E-06	2.5E-06	1.2E-05	2.5E-05
46	1.4E-03	1.7E-04	0.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.8E-06	5.0E-06	2.5E-06	1.2E-06	6.0E-06	1.2E-05
48	7.5E-04	9.0E-05	0.62	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.9E-06	2.5E-06	1.2E-06	6.0E-07	3.0E-06	6.0E-06
50	4.1E-04	5.0E-05	0.64	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.5E-07	1.2E-06	6.0E-07	3.0E-07	1.5E-06	3.0E-06
52	2.2E-04	2.7E-05	0.66	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.8E-07	6.0E-07	3.0E-07	1.5E-07	7.5E-07	1.5E-06
54	1.2E-04	1.5E-05	0.68	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.4E-07	3.0E-07	1.5E-07	7.5E-08	3.8E-07	7.5E-07
56	6.5E-05	8.0E-06	0.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.2E-07	1.5E-07	7.5E-08	3.8E-08	1.9E-07	3.8E-07
58	3.5E-05	4.3E-06	0.72	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.0E-08	8.0E-08	4.0E-08	2.0E-08	1.0E-07	2.0E-07
60	1.9E-05	2.3E-06	0.74	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0E-08	4.0E-08	2.0E-08	1.0E-08	5.0E-08	1.0E-07
62	1.0E-05	1.3E-06	0.76	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.5E-08	2.0E-08	1.0E-08	5.0E-09	2.5E-08	5.0E-08
64	5.5E-06	7.0E-07	0.78	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.5E-09	1.0E-08	5.0E-09	2.5E-09	1.2E-08	2.5E-08
66	3.0E-06	3.8E-07	0.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.8E-09	5.0E-09	2.5E-09	1.2E-09	6.0E-09	1.2E-08
68	1.6E-06	2.0E-07	0.82	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.9E-09	2.5E-09	1.2E-09	6.0E-10	3.0E-09	6.0E-09
70	8.5E-07	1.1E-07	0.84	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.5E-10	1.2E-09	6.0E-10	3.0E-10	1.5E-09	3.0E-09
72	4.6E-07	5.8E-08	0.86	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.8E-10	6.0E-10	3.0E-10	1.5E-10	7.5E-10	1.5E-09
74	2.5E-07	3.2E-08	0.88	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.4E-10	3.0E-10	1.5E-10	7.5E-11	3.8E-10	7.5E-10
76	1.3E-07	1.7E-08	0.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.2E-10	1.5E-10	7.5E-11	3.8E-11	1.9E-10	3.8E-10
78	7.0E-08	9.0E-09	0.92	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.0E-11	8.0E-11	4.0E-11	2.0E-11	1.0E-10	2.0E-10
80	3.8E-08	4.8E-09	0.94	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0E-11	4.0E-11	2.0E-11	1.0E-11	5.0E-11	1.0E-10
82	2.0E-08	2.6E-09	0.96	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.5E-11	2.0E-11	1.0E-11	5.0E-12	2.5E-11	5.0E-11
84	1.1E-08	1.4E-09	0.98	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.5E-12	1.0E-11	5.0E-12	2.5E-12	1.2E-11	2.5E-11
86	6.0E-09	7.5E-10	1.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.8E-12	5.0E-12	2.5E-12	1.2E-12	6.0E-12	1.2E-11
88	3.2E-09	4.0E-10	1.02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.9E-12	2.5E-12	1.2E-12	6.0E-13	3.0E-12	6.0E-12
90	1.7E-09	2.2E-10	1.04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.5E-13	1.2E-12	6.0E-13	3.0E-13	1.5E-12	3.0E-12
92	9.0E-10	1.2E-10	1.06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.8E-13	6.0E-13	3.0E-13	1.5E-13	7.5E-13	1.5E-12
94	4.8E-10	6.5E-11	1.08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.4E-13	3.0E-13	1.5E-13	7.5E-14	3.8E-13	7.5E-13
96	2.5E-10	3.5E-11	1.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.2E-13	1.5E-13	7.5E-14	3.8E-14	1.9E-13	3.8E-13
98	1.3E-10	1.9E-11	1.12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.0E-14	8.0E-14	4.0E-14	2.0E-14	1.0E-13	2.0E-13
100	7.0E-11	1.0E-11	1.14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0E-14	4.0E-14	2.0E-14	1.0E-14	5.0E-14	1.0E-13
102	3.8E-11	5.5E-12	1.16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.5E-14	2.0E-14	1.0E-14	5.0E-15	2.5E-14	5.0E-14
104	2.0E-11	3.0E-12	1.18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.5E-15	1.0E-14	5.0E-15	2.5E-15	1.2E-14	2.5E-14
106	1.1E-11	1.6E-12	1.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.8E-15	5.0E-15	2.5E-15	1.2E-15	6.0E-15	1.2E-14
108	6.0E-12	8.5E-13	1.22	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.9E-15	2.5E-15	1.2E-15	6.0E-16	3.0E-15	6.0E-15
110	3.2E-12	4.5E-13	1.24	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.5E-16	1.2E-15	6.0E-16	3.0E-16	1.5E-15	3.0E-15
112	1.7E-12	2.4E-13	1.26	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.8E-16	6.0E-16	3.0E-16	1.5E-16	7.5E-16	1.5E-15
114	9.0E-13	1.3E-13	1.28	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.4E-16	3.0E-16	1.5E-16	7.5E-17	3.8E-16	7.5E-16
116	4.8E-13	7.0E-14	1.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.2E-16	1.5E-16	7.5E-17	3.8E-17	1.9E-16	3.8E-16
118	2.5E-13	3.8E-14	1.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.0E-17	8.0E-17	4.0E-17	2.0E-17	1.0E-16	2.0E-16
120	1.3E-13	2.0E-14	1.34	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.0E-17	4.0E-17	2.0E-17	1.0E-17	5.0E-17	1.0E-16
122	7.0E-14	1.1E-14	1.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.5E-17	2.0E-17	1.0E-17	5.0E-18	2.5E-17	5.0E-17
124	3.8E-14	6.0E-15	1.38	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.5E-18	1.0E-17	5.0E-18	2.5E-18	1.2E-17	2.5E-17
126	2.0E-14	3.2E-15	1.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.8E-18	5.0E-18	2.5E-18	1.2E-18	6.0E-18	1.2E-17
128	1.1E-14	1.7E-15	1.42	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.9E-18	2.5E-18	1.2E-18	6.0E-19	3.0E-18	6.0E-18
130	6.0E-15	9.0E-16	1.44	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.5E-19	1.2E-18	6.0E-19	3.0E-19	1.5E-18	3.0E-18
132	3.2E-15	4.8E-16	1.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.8E-19	6.0E-19	3.0E-19	1.5E-19	7.5E-19	1.5E-18
134	1.7E-15	2.6E-16	1.48	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.4E-19	3.0E-19	1.5E-19	7.5E-20	3.8E-19	7.5E-19
136	9.0E-16	1.4E-16	1.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: LI
MODEL= PARR: TIME= 1989.2.0: PERIOD= 1.8723
(ATOMIC-C-NUM= 3: ATOMIC-W= 6.94)
--- 65.0 DEG/1334-1334 KM ---

DIFFERENTIAL FLUX ENTERING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV*IN)

[illegible]

TABLE 11 B

TABLE 12 A

MAGNETOSPHERICALLY		DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)										
EN- ERGY	ATTEN- UATED	SHIELD THICKNESS (GM/CM**2)										
		0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	1.89E-02	1.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04
14	1.74E-02	1.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
16	1.74E-02	1.61E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
18	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
20	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
22	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
24	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
26	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
28	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
30	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
32	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
34	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
36	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
38	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
40	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
42	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
44	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
46	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
48	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
50	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
52	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
54	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.66E-04	5.66E-04
56	1.80E-02	1.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-04	3.65E-04	4.86E-04	5.10E-04	5.6	

TOPFX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: RE
DATE: 19940101 PERIOD: 1.8723
MODEL: (ATOMIC-NUM = 13.0) (C = 9.01)
63.0 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/M)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
3.0-3.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
3.2-3.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
3.4-3.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
3.6-3.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
3.8-4.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
4.0-4.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
4.2-4.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
4.4-4.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
4.6-4.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
4.8-5.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
5.0-5.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
5.2-5.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
5.4-5.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
5.6-5.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
5.8-6.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
6.0-6.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
6.2-6.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
6.4-6.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
6.6-6.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
6.8-7.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
7.0-7.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
7.2-7.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
7.4-7.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
7.6-7.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
7.8-8.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
8.0-8.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
8.2-8.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
8.4-8.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
8.6-8.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
8.8-9.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
9.0-9.2	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
9.2-9.4	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
9.4-9.6	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
9.6-9.8	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
9.8-10.0	1.27E-03	5.15E-03	1.15E-03	5.15E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03

TABLE 12 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: B
MODEL= BARP; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NUM= 5; ATOMIC-W= 10.82)
6340 DES41334-1334-W

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY-MEV/N)

SHIELD-THICKNESS (G/CM²)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED
100	100	100
90	90	90
80	80	80
70	70	70
60	60	60
50	50	50
40	40	40
30	30	30
20	20	20
10	10	10
0	0	0

[illegible]

TABLE 13 A

ORIGINAL PAGE 19
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: R
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
ATOMIC= 5; ATOMIC= 10.82
63.0 DEG/1334-1334 RM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.13	0.20	0.30	0.50	1.0	3.0	5.0	10.0
39.48	1.61E-02	1.64E-02	1.44E-02	1.39E-02	1.34E-02	1.22E-02	1.19E-02	1.12E-02	1.04E-02	9.7E-03	8.9E-03	8.2E-03	7.6E-03
40.48	1.78E-02	1.81E-02	1.61E-02	1.56E-02	1.51E-02	1.39E-02	1.36E-02	1.29E-02	1.21E-02	1.14E-02	1.06E-02	9.9E-03	9.3E-03
41.48	1.95E-02	1.98E-02	1.78E-02	1.73E-02	1.68E-02	1.56E-02	1.53E-02	1.46E-02	1.38E-02	1.31E-02	1.23E-02	1.16E-02	1.10E-02
42.48	2.12E-02	2.15E-02	1.95E-02	1.90E-02	1.85E-02	1.73E-02	1.70E-02	1.63E-02	1.55E-02	1.48E-02	1.40E-02	1.33E-02	1.27E-02
43.48	2.29E-02	2.32E-02	2.12E-02	2.07E-02	2.02E-02	1.90E-02	1.87E-02	1.80E-02	1.72E-02	1.65E-02	1.57E-02	1.50E-02	1.44E-02
44.48	2.46E-02	2.49E-02	2.29E-02	2.24E-02	2.19E-02	2.07E-02	2.04E-02	1.97E-02	1.89E-02	1.82E-02	1.74E-02	1.67E-02	1.61E-02
45.48	2.63E-02	2.66E-02	2.46E-02	2.41E-02	2.36E-02	2.24E-02	2.21E-02	2.14E-02	2.06E-02	1.99E-02	1.91E-02	1.84E-02	1.78E-02
46.48	2.80E-02	2.83E-02	2.63E-02	2.58E-02	2.53E-02	2.41E-02	2.38E-02	2.31E-02	2.23E-02	2.16E-02	2.08E-02	2.01E-02	1.95E-02
47.48	2.97E-02	3.00E-02	2.80E-02	2.75E-02	2.70E-02	2.58E-02	2.55E-02	2.48E-02	2.40E-02	2.33E-02	2.25E-02	2.18E-02	2.12E-02
48.48	3.14E-02	3.17E-02	2.97E-02	2.92E-02	2.87E-02	2.75E-02	2.72E-02	2.65E-02	2.57E-02	2.50E-02	2.42E-02	2.35E-02	2.29E-02
49.48	3.31E-02	3.34E-02	3.14E-02	3.09E-02	3.04E-02	2.92E-02	2.89E-02	2.82E-02	2.74E-02	2.67E-02	2.59E-02	2.52E-02	2.46E-02
50.48	3.48E-02	3.51E-02	3.31E-02	3.26E-02	3.21E-02	3.09E-02	3.06E-02	2.99E-02	2.91E-02	2.84E-02	2.76E-02	2.69E-02	2.63E-02
51.48	3.65E-02	3.68E-02	3.48E-02	3.43E-02	3.38E-02	3.26E-02	3.23E-02	3.16E-02	3.08E-02	3.01E-02	2.93E-02	2.86E-02	2.80E-02
52.48	3.82E-02	3.85E-02	3.65E-02	3.60E-02	3.55E-02	3.43E-02	3.40E-02	3.33E-02	3.25E-02	3.18E-02	3.10E-02	3.03E-02	2.97E-02
53.48	3.99E-02	4.02E-02	3.82E-02	3.77E-02	3.72E-02	3.60E-02	3.57E-02	3.50E-02	3.42E-02	3.35E-02	3.27E-02	3.20E-02	3.14E-02
54.48	4.16E-02	4.19E-02	3.99E-02	3.94E-02	3.89E-02	3.77E-02	3.74E-02	3.67E-02	3.59E-02	3.52E-02	3.44E-02	3.37E-02	3.31E-02
55.48	4.33E-02	4.36E-02	4.16E-02	4.11E-02	4.06E-02	3.94E-02	3.91E-02	3.84E-02	3.76E-02	3.69E-02	3.61E-02	3.54E-02	3.48E-02
56.48	4.50E-02	4.53E-02	4.33E-02	4.28E-02	4.23E-02	4.11E-02	4.08E-02	4.01E-02	3.93E-02	3.86E-02	3.78E-02	3.71E-02	3.65E-02
57.48	4.67E-02	4.70E-02	4.50E-02	4.45E-02	4.40E-02	4.28E-02	4.25E-02	4.18E-02	4.10E-02	4.03E-02	3.95E-02	3.88E-02	3.82E-02
58.48	4.84E-02	4.87E-02	4.67E-02	4.62E-02	4.57E-02	4.45E-02	4.42E-02	4.35E-02	4.27E-02	4.20E-02	4.12E-02	4.05E-02	3.99E-02
59.48	5.01E-02	5.04E-02	4.84E-02	4.79E-02	4.74E-02	4.62E-02	4.59E-02	4.52E-02	4.44E-02	4.37E-02	4.29E-02	4.22E-02	4.16E-02
60.48	5.18E-02	5.21E-02	5.01E-02	4.96E-02	4.91E-02	4.79E-02	4.76E-02	4.69E-02	4.61E-02	4.54E-02	4.46E-02	4.39E-02	4.33E-02
61.48	5.35E-02	5.38E-02	5.18E-02	5.13E-02	5.08E-02	4.96E-02	4.93E-02	4.86E-02	4.78E-02	4.71E-02	4.63E-02	4.56E-02	4.50E-02
62.48	5.52E-02	5.55E-02	5.35E-02	5.30E-02	5.25E-02	5.13E-02	5.10E-02	5.03E-02	4.95E-02	4.88E-02	4.80E-02	4.73E-02	4.67E-02
63.48	5.69E-02	5.72E-02	5.52E-02	5.47E-02	5.42E-02	5.30E-02	5.27E-02	5.20E-02	5.12E-02	5.05E-02	4.97E-02	4.90E-02	4.84E-02
64.48	5.86E-02	5.89E-02	5.69E-02	5.64E-02	5.59E-02	5.47E-02	5.44E-02	5.37E-02	5.29E-02	5.22E-02	5.14E-02	5.07E-02	5.01E-02
65.48	6.03E-02	6.06E-02	5.86E-02	5.81E-02	5.76E-02	5.64E-02	5.61E-02	5.54E-02	5.46E-02	5.39E-02	5.31E-02	5.24E-02	5.18E-02
66.48	6.20E-02	6.23E-02	6.03E-02	5.98E-02	5.93E-02	5.81E-02	5.78E-02	5.71E-02	5.63E-02	5.56E-02	5.48E-02	5.41E-02	5.35E-02
67.48	6.37E-02	6.40E-02	6.20E-02	6.15E-02	6.10E-02	5.98E-02	5.95E-02	5.88E-02	5.80E-02	5.73E-02	5.65E-02	5.58E-02	5.52E-02
68.48	6.54E-02	6.57E-02	6.37E-02	6.32E-02	6.27E-02	6.15E-02	6.12E-02	6.05E-02	5.97E-02	5.90E-02	5.82E-02	5.75E-02	5.69E-02
69.48	6.71E-02	6.74E-02	6.54E-02	6.49E-02	6.44E-02	6.32E-02	6.29E-02	6.22E-02	6.14E-02	6.07E-02	5.99E-02	5.92E-02	5.86E-02
70.48	6.88E-02	6.91E-02	6.71E-02	6.66E-02	6.61E-02	6.49E-02	6.46E-02	6.39E-02	6.31E-02	6.24E-02	6.16E-02	6.09E-02	6.03E-02
71.48	7.05E-02	7.08E-02	6.88E-02	6.83E-02	6.78E-02	6.66E-02	6.63E-02	6.56E-02	6.48E-02	6.41E-02	6.33E-02	6.26E-02	6.20E-02
72.48	7.22E-02	7.25E-02	7.05E-02	7.00E-02	6.95E-02	6.83E-02	6.80E-02	6.73E-02	6.65E-02	6.58E-02	6.50E-02	6.43E-02	6.37E-02
73.48	7.39E-02	7.42E-02	7.22E-02	7.17E-02	7.12E-02	7.00E-02	6.97E-02	6.90E-02	6.82E-02	6.75E-02	6.67E-02	6.60E-02	6.54E-02
74.48	7.56E-02	7.59E-02	7.39E-02	7.34E-02	7.29E-02	7.17E-02	7.14E-02	7.07E-02	6.99E-02	6.92E-02	6.84E-02	6.77E-02	6.71E-02
75.48	7.73E-02	7.76E-02	7.56E-02	7.51E-02	7.46E-02	7.34E-02	7.31E-02	7.24E-02	7.16E-02	7.09E-02	7.01E-02	6.94E-02	6.88E-02
76.48	7.90E-02	7.93E-02	7.73E-02	7.68E-02	7.63E-02	7.51E-02	7.48E-02	7.41E-02	7.33E-02	7.26E-02	7.18E-02	7.11E-02	7.05E-02
77.48	8.07E-02	8.10E-02	7.90E-02	7.85E-02	7.80E-02	7.68E-02	7.65E-02	7.58E-02	7.50E-02	7.43E-02	7.35E-02	7.28E-02	7.22E-02
78.48	8.24E-02	8.27E-02	8.07E-02	8.02E-02	7.97E-02	7.85E-02	7.82E-02	7.75E-02	7.67E-02	7.60E-02	7.52E-02	7.45E-02	7.39E-02
79.48	8.41E-02	8.44E-02	8.24E-02	8.19E-02	8.14E-02	8.02E-02	7.99E-02	7.92E-02	7.84E-02	7.77E-02	7.69E-02	7.62E-02	7.56E-02
80.48	8.58E-02	8.61E-02	8.41E-02	8.36E-02	8.31E-02	8.19E-02	8.16E-02	8.09E-02	8.01E-02	7.94E-02	7.86E-02	7.79E-02	7.73E-02
81.48	8.75E-02	8.78E-02	8.58E-02	8.53E-02	8.48E-02	8.36E-02	8.33E-02	8.26E-02	8.18E-02	8.11E-02	8.03E-02	7.96E-02	7.90E-02
82.48	8.92E-02	8.95E-02	8.75E-02	8.70E-02	8.65E-02	8.53E-02	8.50E-02	8.43E-02	8.35E-02	8.28E-02	8.20E-02	8.13E-02	8.07E-02
83.48	9.09E-02	9.12E-02	8.92E-02	8.87E-02	8.82E-02	8.70E-02	8.67E-02	8.60E-02	8.52E-02	8.45E-02	8.37E-02	8.30E-02	8.24E-02
84.48	9.26E-02	9.29E-02	9.09E-02	9.04E-02	8.99E-02	8.87E-02	8.84E-02	8.77E-02	8.69E-02	8.62E-02	8.54E-02	8.47E-02	8.41E-02
85.48	9.43E-02	9.46E-02	9.26E-02	9.21E-02	9.16E-02	9.04E-02	9.01E-02	8.94E-02	8.86E-02	8.79E-02	8.71E-02	8.64E-02	8.58E-02
86.48	9.60E-02	9.63E-02	9.43E-02	9.38E-02	9.33E-02	9.21E-02	9.18E-02	9.11E-02	9.03E-02	8.96E-02	8.88E-02	8.81E-02	8.75E-02
87.48	9.77E-02	9.80E-02	9.60E-02	9.55E-02	9.50E-02	9.38E-02	9.35E-02	9.28E-02	9.20E-02	9.13E-02	9.05E-02	8.98E-02	8.92E-02
88.48	9.94E-02	9.97E-02	9.77E-02	9.72E-02	9.67E-02	9.55E-02	9.52E-02	9.45E-02	9.37E-02	9.30E-02	9.22E-02	9.15E-02	9.09E-02
89.48	1.01E-01	1.01E-01	9.94E-02	9.89E-02	9.84E-02	9.72E-02	9.69E-02	9.62E-02	9.54E-02	9.47E-02	9.39E-02	9.32E-02	9.26E-02
90.48	1.03E-01	1.03E-01	1.01E-01	1.00E-01	9.94E-02	9.82E-02	9.79E-02	9.72E-02	9.64E-02	9.57E-02	9.49E-02	9.42E-02	9.36E-02
91.48	1.05E-01	1.05E-01	1.03E-01	1.02E-01	1.01E-01	9.89E-02	9.86E-02	9.79E-02	9.71E-02	9.64E-02	9.56E-02	9.49E-02	9.43E-02
92.48	1.07E-01	1.07E-01	1.05E-01	1.04E-01	1.03E-01	1.01E-01	1.00E-01	9.93E-02	9.85E-02	9.78E-02	9.70E-02	9.63E-02	9.57E-02
93.48	1.09E-01	1.09E-01	1.07E-01	1.06E-01	1.05E-01	1.03E-01	1.02E-01	1.01E-01	1.00E-01	9.92E-02	9.85E-02	9.77E-02	9.70E-02
94.48	1.11E-01	1.11E-01	1.09E-01	1.08E-01	1.07E-01	1.05E-01	1.04E-01	1.03E-01	1.02E-01	1.01E-01	1.00E-01	9.92E-02	9.85E-02
95.48	1.13E-01	1.13E-01	1.11E-01	1.10E-01	1.09E-01	1.07E-01	1.06E-01	1.05E-01	1.04E-01	1.03E-01	1.02E-01	1.01E-01	1.00E-01
96.48	1.15E-01	1.15E-01	1.13E-01	1.12E-01	1.11E-01	1.09E-01	1.08E-01	1.07E-01	1.06E-01	1.05E-01	1.04E-01	1.03E-01	1.02E-01
97.48	1.17E-01	1.17E-01	1.15E-01	1.14E-01	1.13E-01	1.11E-01	1.10E-01	1.09E-01	1.08E-01	1.07E-01	1.06E-01	1.05E-01	1.04E-01
98.48	1.19E-01	1.19E-01	1.17E-01	1.16E-01	1.15E-01	1.13E-01	1.12E-01	1.11E-01	1.10E-01	1.09E-01	1.08E-01	1.07E-01	1.06E-01
99.48	1.21E-01	1.21E-01	1.19E-01	1.18E-01	1.17E-01	1.15E-01	1.14E-01	1.13E-01	1.12E-01	1.11E-01	1.10E-01	1.09E-01	1.08E-01
100.48	1.23E-01	1.23E-01	1.21E-01	1.20E-01	1.19E-01	1.17E-01	1.16E-01	1.15E-01	1.14E-01	1.13E-01	1.12E-01	1.11E-01	1.10E-01

TABLE 13.8

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: C
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NUM= 6; ATOMIC-W= 12.01)
63.0 DEG/1334-1334-W

MAGNETOSPHERICALLY

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²·DAY·MEV/N)

SHIELD THICKNESS (mm)

[illegible]

TABLE 14A

ORIGINAL PAGE IS
OF POOR QUALITY

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY/MEV/N)[illegible]

TABLE 148

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: N
MODEL = BARR; TIME = 1989.2.0; PERIOD = 1.8723
ATOMIC-NUM = 7; ATOMIC-W = 14.01
95.0 DE9/1334-1334 RM

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	5.3E-03	3.8E-03	0.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
14	4.9E-03	3.1E-03	0.23	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
16	4.4E-03	2.8E-03	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
18	3.9E-03	2.5E-03	0.29	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
20	3.5E-03	2.2E-03	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
22	3.1E-03	1.9E-03	0.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
24	2.7E-03	1.7E-03	0.41	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
26	2.4E-03	1.5E-03	0.44	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
28	2.1E-03	1.3E-03	0.49	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
30	1.9E-03	1.1E-03	0.52	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
32	1.7E-03	1.0E-03	0.57	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
34	1.5E-03	8.8E-04	0.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
36	1.3E-03	7.8E-04	0.67	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
38	1.2E-03	7.0E-04	0.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
40	1.1E-03	6.3E-04	0.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
42	1.0E-03	5.7E-04	0.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
44	9.0E-04	5.1E-04	0.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
46	8.0E-04	4.5E-04	0.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
48	7.0E-04	4.0E-04	1.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
50	6.0E-04	3.5E-04	1.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
52	5.0E-04	3.0E-04	1.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
54	4.0E-04	2.5E-04	1.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
56	3.0E-04	2.0E-04	1.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
58	2.0E-04	1.5E-04	1.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
60	1.5E-04	1.0E-04	1.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
62	1.0E-04	7.0E-05	1.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
64	5.0E-05	3.0E-05	1.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
66	3.0E-05	1.5E-05	1.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
68	1.5E-05	7.0E-06	1.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
70	1.0E-05	4.0E-06	1.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
72	5.0E-06	2.0E-06	1.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
74	3.0E-06	1.0E-06	1.65	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
76	1.5E-06	5.0E-07	1.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
78	1.0E-06	3.0E-07	1.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
80	5.0E-07	1.5E-07	1.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
82	3.0E-07	8.0E-08	1.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
84	1.5E-07	4.0E-08	1.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
86	1.0E-07	2.0E-08	1.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
88	5.0E-08	1.0E-08	2.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
90	3.0E-08	5.0E-09	2.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
92	1.5E-08	2.0E-09	2.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
94	1.0E-08	1.0E-09	2.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
96	5.0E-09	5.0E-10	2.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
98	3.0E-09	3.0E-10	2.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
100	1.5E-09	1.5E-10	2.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
102	1.0E-09	1.0E-10	2.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
104	5.0E-10	5.0E-11	2.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
106	3.0E-10	3.0E-11	2.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
108	1.5E-10	1.5E-11	2.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
110	1.0E-10	1.0E-11	2.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
112	5.0E-11	5.0E-12	2.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
114	3.0E-11	3.0E-12	2.65	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
116	1.5E-11	1.5E-12	2.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
118	1.0E-11	1.0E-12	2.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
120	5.0E-12	5.0E-13	2.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
122	3.0E-12	3.0E-13	2.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
124	1.5E-12	1.5E-13	2.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
126	1.0E-12	1.0E-13	2.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
128	5.0E-13	5.0E-14	3.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
130	3.0E-13	3.0E-14	3.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
132	1.5E-13	1.5E-14	3.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
134	1.0E-13	1.0E-14	3.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
136	5.0E-14	5.0E-15	3.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
138	3.0E-14	3.0E-15	3.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
140	1.5E-14	1.5E-15	3.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.6E-03	1.7E-03
142	1.0E-14	1.0E-15	3.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E-03	1.2E-03	1.3E				

TCPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: N
 MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
 (ATOMIC-NUM= 7; ATOMIC-W= 14.01)
 63.0 DEG/1334-1334 NM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY 0.05 MEV/N)

SHIELD THICKNESS (GM/CM²)

Figure 1 displays a series of 16 horizontal panels, each representing a different energy level from 0.0 to 10.0. The vertical axis is labeled 'ENERGY' and ranges from 0.0 to 10.0. The horizontal axis represents time or position. Each panel shows a complex, fractal-like pattern of energy distribution, with the patterns becoming more intricate and spread out as the energy level increases from 0.0 to 10.0.

TABLE 15B

TOPX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: D
 MODEL= BARR: TIME= 1989-2-0: PERIOD= 1.8723
 (ATOMIC-NUM= 8: ATOMIC-W= 16.00)
 03-0 06/133-133-804

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY-MEV/N)

SHIELD THICKNESS (60/CMO02)

[illegible]

TABLE 16 A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: 0
 MODEL=HARR; TIME=1989.2.0; PERIOD=1.8723
 (ATOMIC-NU=8; ATOMIC-W=16.00)
 63.0 DEG/1334-1354 RA

TABLE 16 B

[illegible]

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: F
MODEL: BARR, TIME: 1964-12-01, PERIOD: 1.8723
(ATOMIC-NUCLE: 91, ATOMIC-WE: 19.00)
63.0 DEG/134-134 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM ² DAY/MEV/N)												
		SHIELD THICKNESS (GM/CM ²)										
EN- ERGY	UNATTEN- DATED	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	4.30E-03	0.00E+00	0.00E+00	0.00E+00	1.23E-04	1.12E-04	1.48E-04	1.70E-04	2.03E-04	2.48E-04	2.98E-04	3.53E-04
14	4.00E-03	0.00E+00	0.00E+00	0.00E+00	1.16E-04	1.06E-04	1.36E-04	1.58E-04	1.92E-04	2.37E-04	2.87E-04	3.42E-04
16	3.67E-03	0.00E+00	0.00E+00	0.00E+00	1.03E-04	9.48E-05	1.23E-04	1.45E-04	1.71E-04	2.16E-04	2.66E-04	3.21E-04
18	3.33E-03	0.00E+00	0.00E+00	0.00E+00	9.37E-05	8.58E-05	1.10E-04	1.33E-04	1.61E-04	2.06E-04	2.56E-04	3.11E-04
20	3.00E-03	0.00E+00	0.00E+00	0.00E+00	8.37E-05	7.58E-05	9.58E-05	1.18E-04	1.46E-04	1.91E-04	2.41E-04	2.96E-04
22	2.67E-03	0.00E+00	0.00E+00	0.00E+00	7.50E-05	6.82E-05	8.58E-05	1.05E-04	1.33E-04	1.78E-04	2.28E-04	2.83E-04
24	2.33E-03	0.00E+00	0.00E+00	0.00E+00	6.72E-05	6.14E-05	7.78E-05	9.58E-05	1.23E-04	1.68E-04	2.18E-04	2.73E-04
26	2.00E-03	0.00E+00	0.00E+00	0.00E+00	6.03E-05	5.55E-05	7.08E-05	8.78E-05	1.15E-04	1.60E-04	2.10E-04	2.65E-04
28	1.67E-03	0.00E+00	0.00E+00	0.00E+00	5.41E-05	5.03E-05	6.43E-05	7.93E-05	1.03E-04	1.48E-04	1.98E-04	2.53E-04
30	1.33E-03	0.00E+00	0.00E+00	0.00E+00	4.86E-05	4.57E-05	5.86E-05	7.26E-05	9.70E-05	1.42E-04	1.92E-04	2.47E-04
32	1.00E-03	0.00E+00	0.00E+00	0.00E+00	4.37E-05	4.17E-05	5.36E-05	6.66E-05	8.70E-05	1.39E-04	1.89E-04	2.44E-04
34	8.67E-04	0.00E+00	0.00E+00	0.00E+00	3.93E-05	3.82E-05	4.91E-05	6.11E-05	8.30E-05	1.36E-04	1.86E-04	2.41E-04
36	7.33E-04	0.00E+00	0.00E+00	0.00E+00	3.54E-05	3.53E-05	4.53E-05	5.63E-05	7.90E-05	1.33E-04	1.83E-04	2.38E-04
38	6.00E-04	0.00E+00	0.00E+00	0.00E+00	3.20E-05	3.28E-05	4.19E-05	5.29E-05	7.50E-05	1.30E-04	1.80E-04	2.35E-04
40	4.67E-04	0.00E+00	0.00E+00	0.00E+00	2.90E-05	3.07E-05	3.89E-05	4.99E-05	7.10E-05	1.27E-04	1.77E-04	2.32E-04
42	4.00E-04	0.00E+00	0.00E+00	0.00E+00	2.64E-05	2.91E-05	3.63E-05	4.73E-05	6.90E-05	1.24E-04	1.74E-04	2.29E-04
44	3.33E-04	0.00E+00	0.00E+00	0.00E+00	2.42E-05	2.78E-05	3.41E-05	4.51E-05	6.70E-05	1.21E-04	1.71E-04	2.26E-04
46	2.67E-04	0.00E+00	0.00E+00	0.00E+00	2.20E-05	2.65E-05	3.25E-05	4.35E-05	6.50E-05	1.18E-04	1.68E-04	2.23E-04
48	2.33E-04	0.00E+00	0.00E+00	0.00E+00	2.00E-05	2.53E-05	3.03E-05	4.13E-05	6.30E-05	1.15E-04	1.65E-04	2.20E-04
50	2.00E-04	0.00E+00	0.00E+00	0.00E+00	1.82E-05	2.42E-05	2.83E-05	3.91E-05	6.10E-05	1.12E-04	1.62E-04	2.17E-04
52	1.67E-04	0.00E+00	0.00E+00	0.00E+00	1.66E-05	2.32E-05	2.65E-05	3.73E-05	5.90E-05	1.09E-04	1.59E-04	2.14E-04
54	1.33E-04	0.00E+00	0.00E+00	0.00E+00	1.51E-05	2.18E-05	2.49E-05	3.57E-05	5.70E-05	1.06E-04	1.56E-04	2.11E-04
56	1.00E-04	0.00E+00	0.00E+00	0.00E+00	1.37E-05	2.05E-05	2.31E-05	3.35E-05	5.50E-05	1.03E-04	1.53E-04	2.08E-04
58	8.67E-05	0.00E+00	0.00E+00	0.00E+00	1.24E-05	1.92E-05	2.17E-05	3.15E-05	5.30E-05	1.00E-04	1.50E-04	2.05E-04
60	7.33E-05	0.00E+00	0.00E+00	0.00E+00	1.12E-05	1.80E-05	2.03E-05	2.95E-05	5.10E-05	9.70E-05	1.47E-04	2.02E-04
62	6.00E-05	0.00E+00	0.00E+00	0.00E+00	1.01E-05	1.69E-05	1.82E-05	2.75E-05	4.90E-05	9.50E-05	1.44E-04	2.00E-04
64	4.67E-05	0.00E+00	0.00E+00	0.00E+00	9.10E-06	1.50E-05	1.73E-05	2.55E-05	4.70E-05	9.30E-05	1.41E-04	1.97E-04
66	4.00E-05	0.00E+00	0.00E+00	0.00E+00	8.22E-06	1.42E-05	1.65E-05	2.35E-05	4.50E-05	9.10E-05	1.38E-04	1.94E-04
68	3.33E-05	0.00E+00	0.00E+00	0.00E+00	7.46E-06	1.34E-05	1.57E-05	2.15E-05	4.30E-05	8.90E-05	1.35E-04	1.91E-04
70	2.67E-05	0.00E+00	0.00E+00	0.00E+00	6.82E-06	1.27E-05	1.50E-05	1.95E-05	4.10E-05	8.70E-05	1.32E-04	1.88E-04
72	2.00E-05	0.00E+00	0.00E+00	0.00E+00	6.30E-06	1.20E-05	1.43E-05	1.85E-05	3.90E-05	8.50E-05	1.29E-04	1.85E-04
74	1.67E-05	0.00E+00	0.00E+00	0.00E+00	5.80E-06	1.14E-05	1.37E-05	1.79E-05	3.70E-05	8.30E-05	1.26E-04	1.82E-04
76	1.33E-05	0.00E+00	0.00E+00	0.00E+00	5.32E-06	1.08E-05	1.31E-05	1.73E-05	3.50E-05	8.10E-05	1.23E-04	1.79E-04
78	1.00E-05	0.00E+00	0.00E+00	0.00E+00	4.96E-06	1.03E-05	1.25E-05	1.67E-05	3.30E-05	7.90E-05	1.20E-04	1.76E-04
80	8.67E-06	0.00E+00	0.00E+00	0.00E+00	4.62E-06	9.90E-06	1.20E-05	1.63E-05	3.10E-05	7.70E-05	1.17E-04	1.73E-04
82	7.33E-06	0.00E+00	0.00E+00	0.00E+00	4.30E-06	9.50E-06	1.16E-05	1.59E-05	2.90E-05	7.50E-05	1.14E-04	1.70E-04
84	6.00E-06	0.00E+00	0.00E+00	0.00E+00	4.00E-06	9.10E-06	1.12E-05	1.55E-05	2.70E-05	7.30E-05	1.11E-04	1.67E-04
86	4.67E-06	0.00E+00	0.00E+00	0.00E+00	3.72E-06	8.70E-06	1.08E-05	1.51E-05	2.50E-05	7.10E-05	1.08E-04	1.64E-04
88	4.00E-06	0.00E+00	0.00E+00	0.00E+00	3.46E-06	8.30E-06	1.04E-05	1.47E-05	2.30E-05	6.90E-05	1.05E-04	1.61E-04
90	3.33E-06	0.00E+00	0.00E+00	0.00E+00	3.22E-06	7.90E-06	1.00E-05	1.43E-05	2.10E-05	6.70E-05	1.02E-04	1.58E-04
92	2.67E-06	0.00E+00	0.00E+00	0.00E+00	3.00E-06	7.50E-06	9.60E-06	1.39E-05	1.90E-05	6.50E-05	1.00E-04	1.55E-04
94	2.00E-06	0.00E+00	0.00E+00	0.00E+00	2.80E-06	7.10E-06	9.20E-06	1.35E-05	1.80E-05	6.30E-05	9.70E-05	1.52E-04
96	1.67E-06	0.00E+00	0.00E+00	0.00E+00	2.60E-06	6.70E-06	8.80E-06	1.31E-05	1.70E-05	6.10E-05	9.50E-05	1.49E-04
98	1.33E-06	0.00E+00	0.00E+00	0.00E+00	2.42E-06	6.30E-06	8.40E-06	1.27E-05	1.60E-05	5.90E-05	9.30E-05	1.46E-04
100	1.00E-06	0.00E+00	0.00E+00	0.00E+00	2.26E-06	5.90E-06	8.00E-06	1.23E-05	1.50E-05	5.70E-05	9.10E-05	1.43E-04
102	8.67E-07	0.00E+00	0.00E+00	0.00E+00	2.10E-06	5.50E-06	7.60E-06	1.19E-05	1.40E-05	5.50E-05	8.90E-05	1.40E-04
104	7.33E-07	0.00E+00	0.00E+00	0.00E+00	1.96E-06	5.10E-06	7.20E-06	1.15E-05	1.30E-05	5.30E-05	8.70E-05	1.37E-04
106	6.00E-07	0.00E+00	0.00E+00	0.00E+00	1.82E-06	4.70E-06	6.80E-06	1.11E-05	1.20E-05	5.10E-05	8.50E-05	1.34E-04
108	4.67E-07	0.00E+00	0.00E+00	0.00E+00	1.69E-06	4.30E-06	6.40E-06	1.07E-05	1.10E-05	4.90E-05	8.30E-05	1.31E-04
110	4.00E-07	0.00E+00	0.00E+00	0.00E+00	1.59E-06	3.90E-06	6.00E-06	1.03E-05	1.00E-05	4.70E-05	8.10E-05	1.28E-04
112	3.33E-07	0.00E+00	0.00E+00	0.00E+00	1.49E-06	3.50E-06	5.60E-06	9.90E-06	9.70E-06	4.50E-05	7.90E-05	1.25E-04
114	2.67E-07	0.00E+00	0.00E+00	0.00E+00	1.40E-06	3.10E-06	5.20E-06	9.50E-06	9.30E-06	4.30E-05	7.70E-05	1.22E-04
116	2.00E-07	0.00E+00	0.00E+00	0.00E+00	1.32E-06	2.70E-06	4.80E-06	9.30E-06	8.90E-06	4.10E-05	7.50E-05	1.19E-04
118	1.67E-07	0.00E+00	0.00E+00	0.00E+00	1.24E-06	2.30E-06	4.40E-06	8.90E-06	8.50E-06	3.90E-05	7.30E-05	1.16E-04
120	1.33E-07	0.00E+00	0.00E+00	0.00E+00	1.17E-06	1.90E-06	4.00E-06	8.50E-06	8.10E-06	3.70E-05	7.10E-05	1.13E-04
122	1.00E-07	0.00E+00	0.00E+00	0.00E+00	1.10E-06	1.50E-06	3.60E-06	8.10E-06	7.70E-06	3.50E-05	6.90E-05	1.10E-04
124	8.67E-08	0.00E+00	0.00E+00	0.00E+00	1.04E-06	1.10E-06	3.20E-06	7.70E-06	7.30E-06	3.30E-05	6.70E-05	1.07E-04
126	7.33E-08	0.00E+00	0.00E+00	0.00E+00	9.80E-07	9.90E-07	2.80E-06	7.30E-06	6.90E-06	3.10E-05	6.50E-05	1.04E-04
128	6.00E-08	0.00E+00	0.00E+00	0.00E+00	9.20E-07	8.90E-07	2.40E-06	6.90E-06	6.50E-06	2.90E-05	6.30E-05	1.01E-04
130	4.67E-08	0.00E+00	0.00E+00	0.00E+00	8.60E-07	8.00E-07	2.00E-06	6.50E-06	6.10E-06	2.70E-05	6.10E-05	9.80E-05
132	4.00E-08	0.00E+00	0.00E+00	0.00E+00	8.10E-07	7.10E-07	1.60E-06	6.10E-06	5.70E-06	2.50E-05	5.90E-05	9.50E-05
134	3.33E-08	0.00E+00	0.00E+00	0.00E+00	7.60E-07	6.20E-07	1.20E-06	5.70E-06	5.30E-06	2.30E-05	5.70E-05	9.20E-05
136	2.67E-08	0.00E+00	0.00E+00	0.00E+00	7.10E-07	5.30E-07	8.90E-07	5.30E-06	4.90E-06	2.10E-05	5.50E-05	8.90E-05
138	2.00E-08	0.00E+00	0.00E+00	0.00E+00	6.60E-07	4.40E-07	7.90E-07	4.90E-06	4.50E-06	1.90E-05	5.30E-05	8.60E-05
140	1.67E-08	0.00E+00	0.00E+00	0.00E+00	6.20E-07	3.50E-07	6.90E-07	4.50E-06	4.10E-06	1.70E-05	5.10E-05	8.30E-05
142	1.33E-08	0.00E+00	0.00E+00	0.00E+00	5.80E-07	2.60E-07	5.90E-07	4.10E-06	3.70E-06	1.50E-05	4.90E-05	8.00E-05
144	1.00E-08	0.00E+00	0.00E+00	0.00E+00	5.40E-07	1.70E-07						

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TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: F
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
      (ATOMIC-NUM= 9; ATOMIC-WE= 19.00)
      63.0 DEG/1334-1334 KM

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DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²DAY•MEV/N)

[illegible]

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NE
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NUM= 10; ATOMIC-W= 20.18)
- 63.0 0.051334-1354 89 -

SHIELD THICKNESS (G/CM²)

TABLE 18A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NE
 "MODEL= BARR: TIME= 1989.2.0: PERIOD= 1.8723
 (ATOMIC-NUM= 11: ATOMIC-W= 20.18)
 63.0 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY/MEV/N)[illegible]

TABLE 18 B

ORIGINAL PAGE
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NA
MODEL= RPTC1000 PERIOD= 1.8723
(AT 11:13:13.1334-1334 KN 22.99)
6.0 DEG/1334-1334 KN

MAGNETOSPHERICALLY			DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)										
			SHIELD THICKNESS (G/CM**2)										
EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY										
			0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	6.0E-03	4.8E-04	0.0E+00	0.0E+00	1.84E-04	1.99E-04	1.5E-04	2.7E-04	3.0E-04	3.6E-04	4.4E-04	4.3E-04	
14	5.6E-03	4.4E-04	0.0E+00	0.0E+00	1.74E-04	1.87E-04	1.4E-04	2.5E-04	2.8E-04	3.4E-04	4.1E-04	4.0E-04	
16	5.0E-03	3.9E-04	0.0E+00	0.0E+00	1.63E-04	1.76E-04	1.3E-04	2.4E-04	2.7E-04	3.3E-04	4.0E-04	3.9E-04	
18	4.7E-03	3.6E-04	0.0E+00	0.0E+00	1.54E-04	1.66E-04	1.2E-04	2.3E-04	2.6E-04	3.2E-04	3.9E-04	3.8E-04	
20	4.3E-03	3.3E-04	0.0E+00	0.0E+00	1.47E-04	1.58E-04	1.1E-04	2.2E-04	2.5E-04	3.1E-04	3.8E-04	3.7E-04	
22	4.0E-03	3.0E-04	0.0E+00	0.0E+00	1.42E-04	1.53E-04	1.0E-04	2.1E-04	2.4E-04	3.0E-04	3.7E-04	3.6E-04	
24	3.7E-03	2.7E-04	0.0E+00	0.0E+00	1.38E-04	1.48E-04	9.7E-05	2.0E-04	2.3E-04	2.9E-04	3.6E-04	3.5E-04	
26	3.5E-03	2.5E-04	0.0E+00	0.0E+00	1.36E-04	1.46E-04	9.5E-05	1.9E-04	2.2E-04	2.8E-04	3.5E-04	3.4E-04	
28	3.3E-03	2.3E-04	0.0E+00	0.0E+00	1.35E-04	1.45E-04	9.4E-05	1.8E-04	2.1E-04	2.7E-04	3.4E-04	3.3E-04	
30	3.1E-03	2.1E-04	0.0E+00	0.0E+00	1.34E-04	1.44E-04	9.3E-05	1.7E-04	2.0E-04	2.6E-04	3.3E-04	3.2E-04	
32	2.9E-03	1.9E-04	0.0E+00	0.0E+00	1.33E-04	1.43E-04	9.2E-05	1.6E-04	1.9E-04	2.5E-04	3.2E-04	3.1E-04	
34	2.7E-03	1.7E-04	0.0E+00	0.0E+00	1.32E-04	1.42E-04	9.1E-05	1.5E-04	1.8E-04	2.4E-04	3.1E-04	3.0E-04	
36	2.5E-03	1.5E-04	0.0E+00	0.0E+00	1.31E-04	1.41E-04	9.0E-05	1.4E-04	1.7E-04	2.3E-04	3.0E-04	2.9E-04	
38	2.3E-03	1.3E-04	0.0E+00	0.0E+00	1.30E-04	1.40E-04	8.9E-05	1.3E-04	1.6E-04	2.2E-04	2.9E-04	2.8E-04	
40	2.1E-03	1.1E-04	0.0E+00	0.0E+00	1.29E-04	1.39E-04	8.8E-05	1.2E-04	1.5E-04	2.1E-04	2.8E-04	2.7E-04	
42	1.9E-03	9.9E-05	0.0E+00	0.0E+00	1.28E-04	1.38E-04	8.7E-05	1.1E-04	1.4E-04	2.0E-04	2.7E-04	2.6E-04	
44	1.7E-03	8.9E-05	0.0E+00	0.0E+00	1.27E-04	1.37E-04	8.6E-05	1.0E-04	1.3E-04	1.9E-04	2.6E-04	2.5E-04	
46	1.5E-03	7.9E-05	0.0E+00	0.0E+00	1.26E-04	1.36E-04	8.5E-05	9.7E-05	1.2E-04	1.8E-04	2.5E-04	2.4E-04	
48	1.3E-03	6.9E-05	0.0E+00	0.0E+00	1.25E-04	1.35E-04	8.4E-05	9.5E-05	1.1E-04	1.7E-04	2.4E-04	2.3E-04	
50	1.1E-03	5.9E-05	0.0E+00	0.0E+00	1.24E-04	1.34E-04	8.3E-05	9.3E-05	1.0E-04	1.6E-04	2.3E-04	2.2E-04	
52	9.9E-04	4.9E-05	0.0E+00	0.0E+00	1.23E-04	1.33E-04	8.2E-05	9.1E-05	9.7E-05	1.5E-04	2.2E-04	2.1E-04	
54	8.9E-04	3.9E-05	0.0E+00	0.0E+00	1.22E-04	1.32E-04	8.1E-05	8.9E-05	9.5E-05	1.4E-04	2.1E-04	2.0E-04	
56	7.9E-04	2.9E-05	0.0E+00	0.0E+00	1.21E-04	1.31E-04	8.0E-05	8.7E-05	9.3E-05	1.3E-04	2.0E-04	1.9E-04	
58	6.9E-04	1.9E-05	0.0E+00	0.0E+00	1.20E-04	1.30E-04	7.9E-05	8.5E-05	9.1E-05	1.2E-04	1.9E-04	1.8E-04	
60	5.9E-04	9.9E-06	0.0E+00	0.0E+00	1.19E-04	1.29E-04	7.8E-05	8.3E-05	8.9E-05	1.1E-04	1.8E-04	1.7E-04	
62	4.9E-04	8.9E-06	0.0E+00	0.0E+00	1.18E-04	1.28E-04	7.7E-05	8.1E-05	8.7E-05	1.0E-04	1.7E-04	1.6E-04	
64	3.9E-04	7.9E-06	0.0E+00	0.0E+00	1.17E-04	1.27E-04	7.6E-05	7.9E-05	8.5E-05	9.7E-05	1.6E-04	1.5E-04	
66	2.9E-04	6.9E-06	0.0E+00	0.0E+00	1.16E-04	1.26E-04	7.5E-05	7.7E-05	8.3E-05	9.5E-05	1.5E-04	1.4E-04	
68	1.9E-04	5.9E-06	0.0E+00	0.0E+00	1.15E-04	1.25E-04	7.4E-05	7.5E-05	8.1E-05	9.3E-05	1.4E-04	1.3E-04	
70	1.5E-04	5.0E-06	0.0E+00	0.0E+00	1.14E-04	1.24E-04	7.3E-05	7.3E-05	7.9E-05	9.1E-05	1.3E-04	1.2E-04	
72	1.3E-04	4.3E-06	0.0E+00	0.0E+00	1.13E-04	1.23E-04	7.2E-05	7.1E-05	7.7E-05	8.9E-05	1.2E-04	1.1E-04	
74	1.1E-04	3.7E-06	0.0E+00	0.0E+00	1.12E-04	1.22E-04	7.1E-05	7.0E-05	7.6E-05	8.7E-05	1.1E-04	1.0E-04	
76	9.9E-05	3.1E-06	0.0E+00	0.0E+00	1.11E-04	1.21E-04	7.0E-05	6.9E-05	7.5E-05	8.5E-05	1.0E-04	9.9E-05	
78	8.9E-05	2.5E-06	0.0E+00	0.0E+00	1.10E-04	1.20E-04	6.9E-05	6.7E-05	7.3E-05	8.3E-05	9.9E-05	9.9E-05	
80	7.9E-05	1.9E-06	0.0E+00	0.0E+00	1.09E-04	1.19E-04	6.8E-05	6.6E-05	7.1E-05	8.1E-05	9.7E-05	9.7E-05	
82	6.9E-05	1.3E-06	0.0E+00	0.0E+00	1.08E-04	1.18E-04	6.7E-05	6.5E-05	7.0E-05	7.9E-05	9.5E-05	9.5E-05	
84	5.9E-05	9.9E-07	0.0E+00	0.0E+00	1.07E-04	1.17E-04	6.6E-05	6.4E-05	6.9E-05	7.7E-05	9.3E-05	9.3E-05	
86	4.9E-05	8.9E-07	0.0E+00	0.0E+00	1.06E-04	1.16E-04	6.5E-05	6.3E-05	6.8E-05	7.5E-05	9.1E-05	9.1E-05	
88	3.9E-05	7.9E-07	0.0E+00	0.0E+00	1.05E-04	1.15E-04	6.4E-05	6.2E-05	6.7E-05	7.3E-05	8.9E-05	8.9E-05	
90	2.9E-05	6.9E-07	0.0E+00	0.0E+00	1.04E-04	1.14E-04	6.3E-05	6.1E-05	6.6E-05	7.1E-05	8.7E-05	8.7E-05	
92	1.9E-05	5.9E-07	0.0E+00	0.0E+00	1.03E-04	1.13E-04	6.2E-05	6.0E-05	6.5E-05	6.9E-05	8.5E-05	8.5E-05	
94	1.5E-05	5.3E-07	0.0E+00	0.0E+00	1.02E-04	1.12E-04	6.1E-05	5.9E-05	6.4E-05	6.7E-05	8.3E-05	8.3E-05	
96	1.3E-05	4.7E-07	0.0E+00	0.0E+00	1.01E-04	1.11E-04	6.0E-05	5.8E-05	6.3E-05	6.5E-05	8.1E-05	8.1E-05	
98	1.1E-05	4.1E-07	0.0E+00	0.0E+00	9.9E-05	1.10E-04	5.9E-05	5.7E-05	6.2E-05	6.3E-05	7.9E-05	7.9E-05	
100	9.9E-06	3.5E-07	0.0E+00	0.0E+00	9.8E-05	1.09E-04	5.8E-05	5.6E-05	6.1E-05	6.1E-05	7.7E-05	7.7E-05	
102	8.9E-06	2.9E-07	0.0E+00	0.0E+00	9.7E-05	1.08E-04	5.7E-05	5.5E-05	6.0E-05	6.0E-05	7.5E-05	7.5E-05	
104	7.9E-06	2.3E-07	0.0E+00	0.0E+00	9.6E-05	1.07E-04	5.6E-05	5.4E-05	5.9E-05	5.9E-05	7.3E-05	7.3E-05	
106	6.9E-06	1.7E-07	0.0E+00	0.0E+00	9.5E-05	1.06E-04	5.5E-05	5.3E-05	5.8E-05	5.8E-05	7.1E-05	7.1E-05	
108	5.9E-06	1.1E-07	0.0E+00	0.0E+00	9.4E-05	1.05E-04	5.4E-05	5.2E-05	5.7E-05	5.7E-05	6.9E-05	6.9E-05	
110	4.9E-06	9.9E-08	0.0E+00	0.0E+00	9.3E-05	1.04E-04	5.3E-05	5.1E-05	5.6E-05	5.6E-05	6.7E-05	6.7E-05	
112	3.9E-06	8.9E-08	0.0E+00	0.0E+00	9.2E-05	1.03E-04	5.2E-05	5.0E-05	5.5E-05	5.5E-05	6.5E-05	6.5E-05	
114	2.9E-06	7.9E-08	0.0E+00	0.0E+00	9.1E-05	1.02E-04	5.1E-05	4.9E-05	5.4E-05	5.4E-05	6.3E-05	6.3E-05	
116	1.9E-06	6.9E-08	0.0E+00	0.0E+00	9.0E-05	1.01E-04	5.0E-05	4.8E-05	5.3E-05	5.3E-05	6.1E-05	6.1E-05	
118	1.5E-06	6.3E-08	0.0E+00	0.0E+00	8.9E-05	1.00E-04	4.9E-05	4.7E-05	5.2E-05	5.2E-05	5.9E-05	5.9E-05	
120	1.3E-06	5.7E-08	0.0E+00	0.0E+00	8.8E-05	9.9E-05	4.8E-05	4.6E-05	5.1E-05	5.1E-05	5.7E-05	5.7E-05	
122	1.1E-06	5.1E-08	0.0E+00	0.0E+00	8.7E-05	9.8E-05	4.7E-05	4.5E-05	5.0E-05	5.0E-05	5.5E-05	5.5E-05	
124	9.9E-07	4.5E-08	0.0E+00	0.0E+00	8.6E-05	9.7E-05	4.6E-05	4.4E-05	4.9E-05	4.9E-05	5.3E-05	5.3E-05	
126	8.9E-07	3.9E-08	0.0E+00	0.0E+00	8.5E-05	9.6E-05	4.5E-05	4.3E-05	4.8E-05	4.8E-05	5.1E-05	5.1E-05	
128	7.9E-07	3.3E-08	0.0E+00	0.0E+00	8.4E-05	9.5E-05	4.4E-05	4.2E-05	4.7E-05	4.7E-05	4.9E-05	4.9E-05	
130	6.9E-07	2.7E-08	0.0E+00	0.0E+00	8.3E-05	9.4E-05	4.3E-05	4.1E-05	4.6E-05	4.6E-05	4.7E-05	4.7E-05	
132	5.9E-07	2.1E-08	0.0E+00	0.0E+00	8.2E-05	9.3E-05	4.2E-05	4.0E-05	4.5E-05	4.5E-05	4.5E-05	4.5E-05	
134	4.9E-07	1.5E-08	0.0E+00	0.0E+00	8.1E-05	9.2E-05	4.1E-05	3.9E-05	4.4E-05	4.4E-05	4.3E-05	4.3E-05	
136	3.9E-07	9.9E-09	0.0E+00	0.0E+00	8.0E-05	9.1E-05	4.0E-05	3.8E-05	4.3E-05	4.3E-05	4.1E-05	4.1E-05	
138	2.9E-07	8.9E-09	0.0E+00	0.0E+00	7.9E-05	9.0E-05	3.9E-05	3.7E-05	4.2E-05	4.2E-05	3.9E-05	3.9E-05	
140	1.9E-07	8.0E-09	0.0E+00	0.0E+00	7.8E-05	8.9E-05	3.8E-05	3.6E-05	4.1E-05	4.1E-05	3.7E-05	3.7E-05	
142	1.5E-07	7.3E-09	0.0E+00	0.0E+00	7.7E-05	8.8E-05	3.7E-05	3.5E-05	4.0E-05	4.0E-05	3.5E-05	3.5E-05	
144	1.3E-07	6.7E-09	0.0E+00	0.0E+00	7.6E-05	8.7E-05	3.6E-05	3.4E-05	3.9E-05	3.9E-05	3.3E-05	3.3E-05	
146	1.1E-07	6.1E-09	0.0E+00	0.0E+00	7.5E-05	8.6E-05	3.5E-05	3.3E-05	3.8E-05	3.8E-05	3.1E-05	3.1E-05	
148	9.9E-08	5.5E-09	0.0E+00	0.0E+00	7.4E-05	8.5E-05	3.4E-05	3.2E-05	3.7E-05	3.7E-05	2.9E-05	2.9E-05	
150	8.9E-08	4.9E-09	0.0E+00	0.0E+00	7.3E-05	8.4E-05	3.3E-05	3.1E-05	3.6E-05	3.6E-05	2.7E-05	2.7E-05	
152	7.9E-08	4.3E-09	0.0E+00	0.0E+00	7.2E-05	8.3E-05	3.2E-05	3.0E-05	3.5E-05	3.5E-05	2.5E-05	2.5E-05	
154	6.9E-08	3.7E-09	0.0E+00	0.0E+00	7.1E-05	8.2E-05	3.1E-05	2.9E-05	3.4E-05	3.4E-05	2.3E-05	2.3E-05</	

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NA
 MODEL = RAMP; TIME = 1989-2-0; OF:10D = 1.8723
 (ATOMIC-NUM = 11; ATOMIC-R = 22.99)
 63.0 DEG/1334-1334 K

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIFLOS (PARTICLES/CM² DAY MEV/N)

[illegible]

ORIGINAL PAGE IS
OF POOR QUALITY

TOPX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: MG
MODPL= BARR; TIME 1989.2.0; PERIOD= 1.8723
(ATOMIC NO. 13.4; IONIC = 24.32)
63.0 DEB/133.1334 RN

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²*2DAY*MEV/N)

		SHIELD THICKNESS (GM/CM ²)										
		0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	4.13E-02	0.00E+00	0.00E+00	1.49E-03	1.37E-03	1.39E-03	2.01E-03	2.43E-03	7.74E-03	2.05E-02	3.79E-02	0.0E+00
14	3.68E-02	0.00E+00	0.00E+00	1.41E-03	1.24E-03	1.41E-03	1.80E-03	2.15E-03	2.54E-03	2.86E-02	3.79E-02	0.0E+00
16	3.33E-02	0.00E+00	0.00E+00	1.33E-03	1.21E-03	1.41E-03	1.78E-03	2.10E-03	2.43E-03	2.86E-02	3.79E-02	0.0E+00
18	3.04E-02	0.00E+00	0.00E+00	1.25E-03	1.15E-03	1.42E-03	1.72E-03	2.00E-03	2.29E-03	2.70E-02	3.79E-02	0.0E+00
20	2.79E-02	0.00E+00	0.00E+00	1.17E-03	1.10E-03	1.42E-03	1.66E-03	1.96E-03	2.20E-03	2.60E-02	3.79E-02	0.0E+00
22	2.54E-02	0.00E+00	0.00E+00	1.10E-03	1.03E-03	1.42E-03	1.60E-03	1.89E-03	2.14E-03	2.49E-02	3.79E-02	0.0E+00
24	2.30E-02	0.00E+00	0.00E+00	1.03E-03	9.64E-04	1.41E-03	1.54E-03	1.77E-03	2.03E-03	2.35E-02	3.79E-02	0.0E+00
26	2.07E-02	0.00E+00	0.00E+00	9.64E-04	9.07E-04	1.40E-03	1.48E-03	1.70E-03	1.99E-03	2.26E-02	3.79E-02	0.0E+00
28	1.84E-02	0.00E+00	0.00E+00	9.07E-04	8.51E-04	1.39E-03	1.40E-03	1.68E-03	1.90E-03	2.16E-02	3.79E-02	0.0E+00
30	1.62E-02	0.00E+00	0.00E+00	8.51E-04	7.95E-04	1.38E-03	1.38E-03	1.66E-03	1.89E-03	2.06E-02	3.79E-02	0.0E+00
32	1.40E-02	0.00E+00	0.00E+00	7.95E-04	7.39E-04	1.37E-03	1.37E-03	1.64E-03	1.87E-03	1.96E-02	3.79E-02	0.0E+00
34	1.18E-02	0.00E+00	0.00E+00	7.39E-04	6.83E-04	1.36E-03	1.36E-03	1.62E-03	1.85E-03	1.83E-02	3.79E-02	0.0E+00
36	1.06E-02	0.00E+00	0.00E+00	6.83E-04	6.27E-04	1.35E-03	1.35E-03	1.60E-03	1.83E-03	1.70E-02	3.79E-02	0.0E+00
38	9.38E-03	0.00E+00	0.00E+00	6.27E-04	5.71E-04	1.34E-03	1.34E-03	1.58E-03	1.81E-03	1.57E-02	3.79E-02	0.0E+00
40	8.14E-03	0.00E+00	0.00E+00	5.71E-04	5.15E-04	1.33E-03	1.33E-03	1.56E-03	1.79E-03	1.44E-02	3.79E-02	0.0E+00
42	6.90E-03	0.00E+00	0.00E+00	5.15E-04	4.59E-04	1.32E-03	1.32E-03	1.54E-03	1.77E-03	1.31E-02	3.79E-02	0.0E+00
44	5.66E-03	0.00E+00	0.00E+00	4.59E-04	4.03E-04	1.31E-03	1.31E-03	1.52E-03	1.75E-03	1.18E-02	3.79E-02	0.0E+00
46	4.42E-03	0.00E+00	0.00E+00	4.03E-04	3.47E-04	1.30E-03	1.30E-03	1.50E-03	1.73E-03	1.05E-02	3.79E-02	0.0E+00
48	3.18E-03	0.00E+00	0.00E+00	3.47E-04	2.91E-04	1.29E-03	1.29E-03	1.48E-03	1.71E-03	9.2E-03	3.79E-02	0.0E+00
50	1.94E-03	0.00E+00	0.00E+00	2.91E-04	2.35E-04	1.28E-03	1.28E-03	1.46E-03	1.69E-03	7.9E-03	3.79E-02	0.0E+00
52	7.20E-04	0.00E+00	0.00E+00	2.35E-04	1.79E-04	1.27E-03	1.27E-03	1.44E-03	1.67E-03	6.6E-03	3.79E-02	0.0E+00
54	5.96E-04	0.00E+00	0.00E+00	1.79E-04	1.23E-04	1.26E-03	1.26E-03	1.42E-03	1.65E-03	5.3E-03	3.79E-02	0.0E+00
56	4.72E-04	0.00E+00	0.00E+00	1.23E-04	6.7E-05	1.25E-03	1.25E-03	1.40E-03	1.63E-03	4.0E-03	3.79E-02	0.0E+00
58	3.48E-04	0.00E+00	0.00E+00	6.7E-05	1.1E-05	1.24E-03	1.24E-03	1.38E-03	1.61E-03	2.7E-03	3.79E-02	0.0E+00
60	2.24E-04	0.00E+00	0.00E+00	1.1E-05	5.5E-06	1.23E-03	1.23E-03	1.36E-03	1.59E-03	1.4E-03	3.79E-02	0.0E+00
62	1.00E-04	0.00E+00	0.00E+00	5.5E-06	2.9E-06	1.22E-03	1.22E-03	1.34E-03	1.57E-03	1.1E-03	3.79E-02	0.0E+00
64	8.76E-05	0.00E+00	0.00E+00	2.9E-06	1.3E-06	1.21E-03	1.21E-03	1.32E-03	1.55E-03	8.4E-04	3.79E-02	0.0E+00
66	7.52E-05	0.00E+00	0.00E+00	1.3E-06	6.4E-07	1.20E-03	1.20E-03	1.30E-03	1.53E-03	7.1E-04	3.79E-02	0.0E+00
68	6.28E-05	0.00E+00	0.00E+00	6.4E-07	2.8E-07	1.19E-03	1.19E-03	1.28E-03	1.51E-03	5.8E-04	3.79E-02	0.0E+00
70	5.04E-05	0.00E+00	0.00E+00	2.8E-07	1.2E-07	1.18E-03	1.18E-03	1.26E-03	1.49E-03	4.5E-04	3.79E-02	0.0E+00
72	3.80E-05	0.00E+00	0.00E+00	1.2E-07	5.6E-08	1.17E-03	1.17E-03	1.24E-03	1.47E-03	3.2E-04	3.79E-02	0.0E+00
74	2.56E-05	0.00E+00	0.00E+00	5.6E-08	2.0E-08	1.16E-03	1.16E-03	1.22E-03	1.45E-03	1.9E-04	3.79E-02	0.0E+00
76	1.32E-05	0.00E+00	0.00E+00	2.0E-08	8.4E-09	1.15E-03	1.15E-03	1.20E-03	1.43E-03	6.6E-05	3.79E-02	0.0E+00
78	1.08E-05	0.00E+00	0.00E+00	8.4E-09	3.8E-09	1.14E-03	1.14E-03	1.18E-03	1.41E-03	3.3E-05	3.79E-02	0.0E+00
80	9.56E-06	0.00E+00	0.00E+00	3.8E-09	1.7E-09	1.13E-03	1.13E-03	1.16E-03	1.39E-03	1.0E-05	3.79E-02	0.0E+00
82	8.32E-06	0.00E+00	0.00E+00	1.7E-09	7.9E-10	1.12E-03	1.12E-03	1.14E-03	1.37E-03	3.7E-06	3.79E-02	0.0E+00
84	7.08E-06	0.00E+00	0.00E+00	7.9E-10	3.3E-10	1.11E-03	1.11E-03	1.12E-03	1.35E-03	1.4E-06	3.79E-02	0.0E+00
86	5.84E-06	0.00E+00	0.00E+00	3.3E-10	1.5E-10	1.10E-03	1.10E-03	1.10E-03	1.33E-03	3.7E-07	3.79E-02	0.0E+00
88	4.60E-06	0.00E+00	0.00E+00	1.5E-10	6.4E-11	1.09E-03	1.09E-03	1.08E-03	1.31E-03	1.7E-07	3.79E-02	0.0E+00
90	3.36E-06	0.00E+00	0.00E+00	6.4E-11	2.8E-11	1.08E-03	1.08E-03	1.06E-03	1.29E-03	5.4E-08	3.79E-02	0.0E+00
92	2.12E-06	0.00E+00	0.00E+00	2.8E-11	1.2E-11	1.07E-03	1.07E-03	1.04E-03	1.27E-03	1.1E-08	3.79E-02	0.0E+00
94	9.00E-07	0.00E+00	0.00E+00	1.2E-11	5.6E-12	1.06E-03	1.06E-03	1.02E-03	1.25E-03	3.7E-09	3.79E-02	0.0E+00
96	7.76E-07	0.00E+00	0.00E+00	5.6E-12	2.5E-12	1.05E-03	1.05E-03	1.00E-03	1.23E-03	1.4E-09	3.79E-02	0.0E+00
98	6.52E-07	0.00E+00	0.00E+00	2.5E-12	1.1E-12	1.04E-03	1.04E-03	9.8E-04	1.21E-03	4.0E-10	3.79E-02	0.0E+00
100	5.28E-07	0.00E+00	0.00E+00	1.1E-12	4.9E-13	1.03E-03	1.03E-03	9.6E-04	1.19E-03	1.1E-10	3.79E-02	0.0E+00
102	4.04E-07	0.00E+00	0.00E+00	4.9E-13	2.2E-13	1.02E-03	1.02E-03	9.4E-04	1.17E-03	3.7E-11	3.79E-02	0.0E+00
104	2.80E-07	0.00E+00	0.00E+00	2.2E-13	1.0E-13	1.01E-03	1.01E-03	9.2E-04	1.15E-03	1.4E-11	3.79E-02	0.0E+00
106	1.56E-07	0.00E+00	0.00E+00	1.0E-13	4.4E-14	1.00E-03	1.00E-03	9.0E-04	1.13E-03	4.0E-12	3.79E-02	0.0E+00
108	1.32E-07	0.00E+00	0.00E+00	4.4E-14	2.0E-14	9.9E-04	9.9E-04	8.8E-04	1.11E-03	1.1E-12	3.79E-02	0.0E+00
110	1.08E-07	0.00E+00	0.00E+00	2.0E-14	9.2E-15	9.8E-04	9.8E-04	8.6E-04	1.09E-03	3.7E-13	3.79E-02	0.0E+00
112	9.56E-08	0.00E+00	0.00E+00	9.2E-15	4.2E-15	9.7E-04	9.7E-04	8.4E-04	1.07E-03	1.1E-13	3.79E-02	0.0E+00
114	8.32E-08	0.00E+00	0.00E+00	4.2E-15	1.9E-15	9.6E-04	9.6E-04	8.2E-04	1.05E-03	3.7E-14	3.79E-02	0.0E+00
116	7.08E-08	0.00E+00	0.00E+00	1.9E-15	8.4E-16	9.5E-04	9.5E-04	8.0E-04	1.03E-03	1.1E-14	3.79E-02	0.0E+00
118	5.84E-08	0.00E+00	0.00E+00	8.4E-16	3.8E-16	9.4E-04	9.4E-04	7.8E-04	1.01E-03	3.7E-15	3.79E-02	0.0E+00
120	4.60E-08	0.00E+00	0.00E+00	3.8E-16	1.7E-16	9.3E-04	9.3E-04	7.6E-04	9.9E-04	1.1E-15	3.79E-02	0.0E+00
122	3.36E-08	0.00E+00	0.00E+00	1.7E-16	7.9E-17	9.2E-04	9.2E-04	7.4E-04	9.7E-04	3.7E-16	3.79E-02	0.0E+00
124	2.12E-08	0.00E+00	0.00E+00	7.9E-17	3.3E-17	9.1E-04	9.1E-04	7.2E-04	9.5E-04	1.1E-16	3.79E-02	0.0E+00
126	9.00E-09	0.00E+00	0.00E+00	3.3E-17	1.5E-17	9.0E-04	9.0E-04	7.0E-04	9.3E-04	3.7E-17	3.79E-02	0.0E+00
128	7.76E-09	0.00E+00	0.00E+00	1.5E-17	6.4E-18	8.9E-04	8.9E-04	6.8E-04	9.1E-04	1.1E-17	3.79E-02	0.0E+00
130	6.52E-09	0.00E+00	0.00E+00	6.4E-18	2.8E-18	8.8E-04	8.8E-04	6.6E-04	8.9E-04	3.7E-18	3.79E-02	0.0E+00
132	5.28E-09	0.00E+00	0.00E+00	2.8E-18	1.2E-18	8.7E-04	8.7E-04	6.4E-04	8.7E-04	1.1E-18	3.79E-02	0.0E+00
134	4.04E-09	0.00E+00	0.00E+00	1.2E-18	5.6E-19	8.6E-04	8.6E-04	6.2E-04	8.5E-04	3.7E-19	3.79E-02	0.0E+00
136	2.80E-09	0.00E+00	0.00E+00	5.6E-19	2.5E-19	8.5E-04	8.5E-04	6.0E-04	8.3E-04	1.1E-19	3.79E-02	0.0E+00
138	1.56E-09	0.00E+00	0.00E+00	2.5E-19	1.1E-19	8.4E-04	8.4E-04	5.8E-04	8.1E-04	3.7E-20	3.79E-02	0.0E+00
140	1.32E-09	0.00E+00	0.00E+00	1.1E-19	4.9E-20	8.3E-04	8.3E-04	5.6E-04	7.9E-04	1.1E-20	3.79E-02	0.0E+00
142	1.08E-09	0.00E+00	0.00E+00	4.9E-20	2.2E-20	8.2E-04	8.2E-04	5.4E-04	7.7E-04	3.7E-21	3.79E-02	0.0E+00
144	9.56E-10	0.00E+00	0.00E+00	2.2E-20	1.0E-20	8.1E-04	8.1E-04	5.2E-04	7.5E-04	1.1E-21	3.79E-02	0.0E+00
146	8.32E-10	0.00E+00	0.00E+00	1.0E-20	4.4E-21	8.0E-04	8.0E-04	5.0E-04	7.3E-04	3.7E-22	3.79E-02	0.0E+00
148	7.08E-10	0.00E+00	0.00E+00	4.4E-21	2.0E-21	7.9E-04	7.9E-04	4.8E-04	7.1E-04	1.1E-22	3.79E-02	0.0E+00
150	5.84E-10	0.00E+00	0.00E+00	2.0E-21	9.2E-22	7.8E-04	7.8E-04	4.6E-04				

TOPFX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: WG
MODEL: BARE; TIME: 1989.2.0; PERIOD: 1.973
(ATOMIC-NUCLEI: 12; ATOMIC-W: 23.32)
63.0 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
3.00E-02	1.48E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.26E-02	1.38E-02	1.55E-02	1.68E-02	1.82E-02	1.95E-02
4.00E-02	1.30E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.45E-02	1.58E-02	1.75E-02	1.88E-02	2.02E-02	2.15E-02
5.00E-02	1.15E-02	8.8E-03	8.8E-03	8.8E-03	8.8E-03	1.30E-02	1.42E-02	1.58E-02	1.70E-02	1.82E-02	1.95E-02
6.00E-02	1.05E-02	8.0E-03	8.0E-03	8.0E-03	8.0E-03	1.20E-02	1.32E-02	1.48E-02	1.60E-02	1.72E-02	1.85E-02
7.00E-02	9.5E-03	7.5E-03	7.5E-03	7.5E-03	7.5E-03	1.10E-02	1.22E-02	1.38E-02	1.50E-02	1.62E-02	1.75E-02
8.00E-02	8.8E-03	6.8E-03	6.8E-03	6.8E-03	6.8E-03	1.00E-02	1.12E-02	1.28E-02	1.40E-02	1.52E-02	1.65E-02
9.00E-02	8.0E-03	6.0E-03	6.0E-03	6.0E-03	6.0E-03	9.0E-03	1.02E-02	1.18E-02	1.30E-02	1.42E-02	1.55E-02
1.00E-01	7.2E-03	5.2E-03	5.2E-03	5.2E-03	5.2E-03	8.2E-03	9.2E-03	1.08E-02	1.20E-02	1.32E-02	1.45E-02
1.20E-01	6.5E-03	4.5E-03	4.5E-03	4.5E-03	4.5E-03	7.5E-03	8.5E-03	1.00E-02	1.12E-02	1.24E-02	1.37E-02
1.40E-01	5.8E-03	3.8E-03	3.8E-03	3.8E-03	3.8E-03	6.8E-03	7.8E-03	9.2E-03	1.04E-02	1.16E-02	1.29E-02
1.60E-01	5.2E-03	3.2E-03	3.2E-03	3.2E-03	3.2E-03	6.2E-03	7.2E-03	8.5E-03	9.7E-03	1.09E-02	1.22E-02
1.80E-01	4.6E-03	2.6E-03	2.6E-03	2.6E-03	2.6E-03	5.6E-03	6.6E-03	7.8E-03	9.0E-03	1.02E-02	1.15E-02
2.00E-01	4.0E-03	2.0E-03	2.0E-03	2.0E-03	2.0E-03	5.0E-03	6.0E-03	7.2E-03	8.4E-03	9.6E-03	1.09E-02
2.20E-01	3.5E-03	1.8E-03	1.8E-03	1.8E-03	1.8E-03	4.5E-03	5.5E-03	6.7E-03	7.9E-03	9.1E-03	1.04E-02
2.40E-01	3.0E-03	1.6E-03	1.6E-03	1.6E-03	1.6E-03	4.0E-03	5.0E-03	6.2E-03	7.4E-03	8.6E-03	9.8E-03
2.60E-01	2.6E-03	1.4E-03	1.4E-03	1.4E-03	1.4E-03	3.6E-03	4.6E-03	5.8E-03	7.0E-03	8.2E-03	9.4E-03
2.80E-01	2.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	3.2E-03	4.2E-03	5.4E-03	6.6E-03	7.8E-03	9.0E-03
3.00E-01	1.9E-03	1.0E-03	1.0E-03	1.0E-03	1.0E-03	2.9E-03	3.9E-03	5.1E-03	6.3E-03	7.5E-03	8.7E-03
3.20E-01	1.7E-03	9.0E-04	9.0E-04	9.0E-04	9.0E-04	2.6E-03	3.6E-03	4.8E-03	6.0E-03	7.2E-03	8.4E-03
3.40E-01	1.5E-03	8.0E-04	8.0E-04	8.0E-04	8.0E-04	2.4E-03	3.4E-03	4.6E-03	5.8E-03	7.0E-03	8.2E-03
3.60E-01	1.3E-03	7.0E-04	7.0E-04	7.0E-04	7.0E-04	2.2E-03	3.2E-03	4.4E-03	5.6E-03	6.8E-03	8.0E-03
3.80E-01	1.2E-03	6.5E-04	6.5E-04	6.5E-04	6.5E-04	2.0E-03	3.0E-03	4.2E-03	5.4E-03	6.6E-03	7.8E-03
4.00E-01	1.1E-03	6.0E-04	6.0E-04	6.0E-04	6.0E-04	1.8E-03	2.8E-03	4.0E-03	5.2E-03	6.4E-03	7.6E-03
4.20E-01	1.0E-03	5.5E-04	5.5E-04	5.5E-04	5.5E-04	1.6E-03	2.6E-03	3.8E-03	5.0E-03	6.2E-03	7.4E-03
4.40E-01	9.0E-04	5.0E-04	5.0E-04	5.0E-04	5.0E-04	1.5E-03	2.4E-03	3.6E-03	4.8E-03	6.0E-03	7.2E-03
4.60E-01	8.0E-04	4.5E-04	4.5E-04	4.5E-04	4.5E-04	1.4E-03	2.2E-03	3.4E-03	4.6E-03	5.8E-03	7.0E-03
4.80E-01	7.2E-04	4.0E-04	4.0E-04	4.0E-04	4.0E-04	1.3E-03	2.0E-03	3.2E-03	4.4E-03	5.6E-03	6.8E-03
5.00E-01	6.5E-04	3.5E-04	3.5E-04	3.5E-04	3.5E-04	1.2E-03	1.8E-03	3.0E-03	4.2E-03	5.4E-03	6.6E-03
5.20E-01	5.8E-04	3.0E-04	3.0E-04	3.0E-04	3.0E-04	1.1E-03	1.6E-03	2.8E-03	4.0E-03	5.2E-03	6.4E-03
5.40E-01	5.2E-04	2.8E-04	2.8E-04	2.8E-04	2.8E-04	1.0E-03	1.5E-03	2.6E-03	3.8E-03	5.0E-03	6.2E-03
5.60E-01	4.6E-04	2.5E-04	2.5E-04	2.5E-04	2.5E-04	9.0E-04	1.4E-03	2.4E-03	3.6E-03	4.8E-03	6.0E-03
5.80E-01	4.0E-04	2.2E-04	2.2E-04	2.2E-04	2.2E-04	8.2E-04	1.3E-03	2.2E-03	3.4E-03	4.6E-03	5.8E-03
6.00E-01	3.5E-04	2.0E-04	2.0E-04	2.0E-04	2.0E-04	7.5E-04	1.2E-03	2.0E-03	3.2E-03	4.4E-03	5.6E-03
6.20E-01	3.0E-04	1.8E-04	1.8E-04	1.8E-04	1.8E-04	6.8E-04	1.1E-03	1.8E-03	3.0E-03	4.2E-03	5.4E-03
6.40E-01	2.6E-04	1.6E-04	1.6E-04	1.6E-04	1.6E-04	6.2E-04	1.0E-03	1.6E-03	2.8E-03	4.0E-03	5.2E-03
6.60E-01	2.2E-04	1.4E-04	1.4E-04	1.4E-04	1.4E-04	5.6E-04	9.0E-04	1.5E-03	2.6E-03	3.8E-03	5.0E-03
6.80E-01	1.9E-04	1.2E-04	1.2E-04	1.2E-04	1.2E-04	5.0E-04	8.2E-04	1.4E-03	2.4E-03	3.6E-03	4.8E-03
7.00E-01	1.7E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	4.5E-04	7.5E-04	1.3E-03	2.2E-03	3.4E-03	4.6E-03
7.20E-01	1.5E-04	9.0E-05	9.0E-05	9.0E-05	9.0E-05	4.0E-04	6.8E-04	1.2E-03	2.0E-03	3.2E-03	4.4E-03
7.40E-01	1.3E-04	8.0E-05	8.0E-05	8.0E-05	8.0E-05	3.6E-04	6.2E-04	1.1E-03	1.8E-03	3.0E-03	4.2E-03
7.60E-01	1.2E-04	7.5E-05	7.5E-05	7.5E-05	7.5E-05	3.4E-04	5.8E-04	1.0E-03	1.6E-03	2.8E-03	4.0E-03
7.80E-01	1.1E-04	7.0E-05	7.0E-05	7.0E-05	7.0E-05	3.2E-04	5.4E-04	9.2E-04	1.5E-03	2.6E-03	3.8E-03
8.00E-01	1.0E-04	6.5E-05	6.5E-05	6.5E-05	6.5E-05	3.0E-04	5.0E-04	8.5E-04	1.4E-03	2.4E-03	3.6E-03
8.20E-01	9.0E-05	6.0E-05	6.0E-05	6.0E-05	6.0E-05	2.8E-04	4.6E-04	7.8E-04	1.3E-03	2.2E-03	3.4E-03
8.40E-01	8.2E-05	5.5E-05	5.5E-05	5.5E-05	5.5E-05	2.6E-04	4.2E-04	7.2E-04	1.2E-03	2.0E-03	3.2E-03
8.60E-01	7.5E-05	5.0E-05	5.0E-05	5.0E-05	5.0E-05	2.4E-04	3.8E-04	6.6E-04	1.1E-03	1.8E-03	3.0E-03
8.80E-01	6.8E-05	4.5E-05	4.5E-05	4.5E-05	4.5E-05	2.2E-04	3.4E-04	6.0E-04	1.0E-03	1.6E-03	2.8E-03
9.00E-01	6.2E-05	4.0E-05	4.0E-05	4.0E-05	4.0E-05	2.0E-04	3.0E-04	5.4E-04	9.0E-04	1.5E-03	2.6E-03
9.20E-01	5.6E-05	3.5E-05	3.5E-05	3.5E-05	3.5E-05	1.8E-04	2.6E-04	4.8E-04	8.2E-04	1.4E-03	2.4E-03
9.40E-01	5.0E-05	3.0E-05	3.0E-05	3.0E-05	3.0E-05	1.6E-04	2.2E-04	4.2E-04	7.4E-04	1.3E-03	2.2E-03
9.60E-01	4.5E-05	2.8E-05	2.8E-05	2.8E-05	2.8E-05	1.5E-04	2.0E-04	3.8E-04	6.6E-04	1.2E-03	2.0E-03
9.80E-01	4.0E-05	2.5E-05	2.5E-05	2.5E-05	2.5E-05	1.4E-04	1.8E-04	3.4E-04	6.0E-04	1.1E-03	1.8E-03
1.00E-00	3.5E-05	2.2E-05	2.2E-05	2.2E-05	2.2E-05	1.3E-04	1.6E-04	3.0E-04	5.4E-04	1.0E-03	1.6E-03
1.02E-00	3.2E-05	2.0E-05	2.0E-05	2.0E-05	2.0E-05	1.2E-04	1.5E-04	2.8E-04	5.0E-04	9.2E-04	1.5E-03
1.04E-00	2.9E-05	1.8E-05	1.8E-05	1.8E-05	1.8E-05	1.1E-04	1.4E-04	2.6E-04	4.6E-04	8.5E-04	1.4E-03
1.06E-00	2.6E-05	1.6E-05	1.6E-05	1.6E-05	1.6E-05	1.0E-04	1.3E-04	2.4E-04	4.2E-04	7.8E-04	1.3E-03
1.08E-00	2.4E-05	1.4E-05	1.4E-05	1.4E-05	1.4E-05	9.0E-05	1.2E-04	2.2E-04	3.8E-04	7.2E-04	1.2E-03
1.10E-00	2.2E-05	1.2E-05	1.2E-05	1.2E-05	1.2E-05	8.2E-05	1.1E-04	2.0E-04	3.4E-04	6.6E-04	1.1E-03
1.12E-00	2.0E-05	1.0E-05	1.0E-05	1.0E-05	1.0E-05	7.5E-05	1.0E-04	1.8E-04	3.0E-04	6.0E-04	1.0E-03
1.14E-00	1.8E-05	9.0E-06	9.0E-06	9.0E-06	9.0E-06	6.8E-05	9.0E-05	1.6E-04	2.6E-04	5.4E-04	9.2E-04
1.16E-00	1.6E-05	8.0E-06	8.0E-06	8.0E-06	8.0E-06	6.2E-05	8.2E-05	1.5E-04	2.4E-04	5.0E-04	8.5E-04
1.18E-00	1.5E-05	7.5E-06	7.5E-06	7.5E-06	7.5E-06	5.8E-05	7.5E-05	1.4E-04	2.2E-04	4.6E-04	7.8E-04
1.20E-00	1.4E-05	7.0E-06	7.0E-06	7.0E-06	7.0E-06	5.4E-05	7.0E-05	1.3E-04	2.0E-04	4.2E-04	7.2E-04
1.22E-00	1.3E-05	6.5E-06	6.5E-06	6.5E-06	6.5E-06	5.0E-05	6.5E-05	1.2E-04	1.8E-04	3.8E-04	6.6E-04
1.24E-00	1.2E-05	6.0E-06	6.0E-06	6.0E-06	6.0E-06	4.6E-05	6.0E-05	1.1E-04	1.6E-04	3.4E-04	6.0E-04
1.26E-00	1.1E-05	5.5E-06	5.5E-06	5.5E-06	5.5E-06	4.2E-05	5.5E-05	1.0E-04	1.5E-04	3.0E-04	5.4E-04
1.28E-00	1.0E-05	5.0E-06	5.0E-06	5.0E-06	5.0E-06	3.8E-05	5.0E-05	9.2E-05	1.4E-04	2.6E-04	4.8E-04
1.30E-00	9.0E-06	4.5E-06	4.5E-06	4.5E-06	4.5E-06	3.4E-05	4.5E-05	8.5E-05	1.3E-04	2.4E-04	4.2E-04
1.32E-00	8.2E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	3.0E-05	4.0E-05	7.8E-05	1.2E-04	2.0E-04	3.8E-04
1.34E-00	7.5E-06	3.5E-06	3.5E-06	3.5E-06	3.5E-06	2.8E-05	3.5E-05	7.2E-05	1.1E-04	1.8E-04	3.4E-04
1.36E-00	6.8E-06	3.0E-06	3.0E-06	3.0E-06	3.0E-06	2.6E-05	3.0E-05	6.6E-05	1.0E-04	1.6E-04	3.0E-04
1.38E-00	6.2E-06	2.8E-06	2.8E-06	2.8E-06	2.8E-06	2.4E-05	2.8E-05	6.0E-05	9.0E-05	1.5E-04	2.6E-04
1.40E-00	5.6E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.2E-05	2.5E-05	5.4E-05	8.2E-05	1.4E-04	2.4E-04
1.42E-00	5.0E-06	2.2E-06	2.2E-06	2.2E-06	2.2E-06	2.0E-05	2.2E-05	4.8E-05	7.4E-05	1.3E-04	2.2E-04
1.44E-00	4.5E-06	2.0E-06	2.0E-06	2.0E-06	2.0E-06	1.8E-05	2.0E-05	4.2E-05	6.6E-05	1.2E-04	2.0E-04
1.46E-00	4.0E-06	1.8E-06	1.8E-06	1.8E-06	1.8E-06	1.6E-05	1.8E-05	3.8E-05	6.0E-05	1.1E-04	1.8E-04
1.48E-00	3.5E-06	1.6E-06	1.6E-06	1.6E-06	1.6E-06	1.5E-05	1.6E-05	3.4E-05	5.4E-05	1.0E-04	1.6E-04
1.50E-00	3.2E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-05	1.4E-05	3.0E-05	4.8E-05	9.2E-05	1.5E-04
1.52E-00	2.9E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.3E-05	1.3E-05	2.8E			

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: AL
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NUM= 13; ATOMIC-W= 26.98)
----- 63.0 DEG 1334-1334 KW

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY MEV/N)[illegible]

TABLE 21 A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: AL
 MODEL= PARB; TIME= 1989-2-0; PERIOD= 1.8723
 (ATOMIC-NUM= 13; ATOMIC-W= 26.98)
 63.0 DEG/1934-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY 0.05 MEV/N)

SHIELD THICKNESS (GM/CM⁰⁰²)[illegible]

TABLE 218

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: SI
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NU= 14; ATOMIC-W= 28.09)
--- 63.0 DEG 1334-1334 ---

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²DAY/MEV/N)

[illegible]

TABLE 22 A

TOPX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: S1
WDOFL= PARD; TIME= 1989.2.0; PERIOD= 1..A723
(ATOMIC-NU= 14; ATOMIC-W= 28.09)
63.0 DEG/1334-1334

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY/MEV/N)

[illegible]

TABLE 22 B

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: P
 DATE: 1989.12.01 PERIOD: 1.8725
 MODEL: (ATOMIC-NU= 15; ATOMIC-W= 30.98)
 43.0 NE/1334-1334 km

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2/DAY*MEV/N)

SHIELD THICKNESS (G/CM**2)															
EN- UNATTEN- ED	UNATTEN- ED	ATTEN- ED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0	
12	1.72E-03	1.05E-04	0.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
14	1.05E-03	6.45E-05	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
16	6.45E-04	4.03E-05	0.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
18	4.03E-04	2.52E-05	0.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
20	2.52E-04	1.57E-05	0.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
22	1.57E-04	9.80E-06	0.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
24	9.80E-05	6.12E-06	0.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
26	6.12E-05	3.83E-06	0.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
28	3.83E-05	2.39E-06	0.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
30	2.39E-05	1.49E-06	0.65	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
32	1.49E-05	9.30E-07	0.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
34	9.30E-06	5.82E-07	0.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
36	5.82E-06	3.64E-07	0.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
38	3.64E-06	2.28E-07	0.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
40	2.28E-06	1.43E-07	0.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
42	1.43E-06	9.00E-08	0.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
44	9.00E-07	5.62E-08	1.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
46	5.62E-07	3.51E-08	1.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
48	3.51E-07	2.21E-08	1.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
50	2.21E-07	1.39E-08	1.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
52	1.39E-07	8.75E-09	1.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
54	8.75E-08	5.47E-09	1.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
56	5.47E-08	3.42E-09	1.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
58	3.42E-08	2.15E-09	1.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
60	2.15E-08	1.36E-09	1.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
62	1.36E-08	8.55E-10	1.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
64	8.55E-09	5.34E-10	1.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
66	5.34E-09	3.36E-10	1.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
68	3.36E-09	2.10E-10	1.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
70	2.10E-09	1.32E-10	1.65	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
72	1.32E-09	8.28E-11	1.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
74	8.28E-10	5.17E-11	1.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
76	5.17E-10	3.23E-11	1.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
78	3.23E-10	2.01E-11	1.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
80	2.01E-10	1.26E-11	1.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
82	1.26E-10	7.90E-12	1.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
84	7.90E-11	4.94E-12	2.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
86	4.94E-11	3.09E-12	2.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
88	3.09E-11	1.93E-12	2.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
90	1.93E-11	1.21E-12	2.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
92	1.21E-11	7.58E-13	2.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
94	7.58E-12	4.72E-13	2.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
96	4.72E-12	2.95E-13	2.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
98	2.95E-12	1.83E-13	2.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
100	1.83E-12	1.14E-13	2.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

TABLE 23A

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DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2/DAY/MEV/N)											
SHIELD THICKNESS (GM/CM**2)											
ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
20.65	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
22.5	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
24.4	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
26.3	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
28.2	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
30.1	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
32.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
33.9	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
35.8	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
37.7	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
39.6	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
41.5	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
43.4	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
45.3	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
47.2	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
49.1	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
51.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
52.9	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
54.8	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
56.7	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
58.6	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
60.5	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
62.4	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
64.3	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
66.2	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
68.1	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
70.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
71.9	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
73.8	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
75.7	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
77.6	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
79.5	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
81.4	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
83.3	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
85.2	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
87.1	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
89.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
90.9	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
92.8	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
94.7	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
96.6	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
98.5	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
100.4	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
102.3	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
104.2	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
106.1	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
108.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
110.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
112.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
114.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
116.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
118.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
120.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
122.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
124.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
126.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
128.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
130.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
132.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
134.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
136.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
138.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
140.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
142.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
144.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
146.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
148.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
150.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
152.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
154.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
156.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
158.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
160.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
162.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
164.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
166.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
168.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
170.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
172.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
174.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
176.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
178.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
180.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
182.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
184.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
186.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
188.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
190.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
192.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
194.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
196.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
198.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0
200.0	77.0	7.5	4.88	3.96	3.05	5.56	9.12	6.40	7.50	9.76	10.0

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE 24A

MAGNETOSPHERICALLY			DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS [PARTICLES/CM**2SDAY*MEV/N]											
EN- ERGY	UNAT- TENUATED	ATTEN- UATED	SHIELD THICKNESS (G/CM**2)											
			0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0	
12	6.45E-03	3.33E-04	0.23	0.00E+00	0.00E+00	2.96E-04	2.77E-04	3.05E-04	4.75E-04	5.08E-04	6.21E-04	7.20E-04	8.59E-04	
14	6.00E-03	3.21E-04	0.23	0.00E+00	0.00E+00	2.80E-04	2.61E-04	2.92E-04	4.78E-04	5.09E-04	6.21E-04	7.20E-04	8.59E-04	
16	5.60E-03	3.09E-04	0.25	0.00E+00	0.00E+00	2.83E-04	2.64E-04	2.95E-04	4.81E-04	5.12E-04	6.21E-04	7.20E-04	8.59E-04	
18	5.20E-03	2.97E-04	0.26	0.00E+00	0.00E+00	2.86E-04	2.67E-04	2.98E-04	4.84E-04	5.15E-04	6.21E-04	7.20E-04	8.59E-04	
20	4.80E-03	2.85E-04	0.27	0.00E+00	0.00E+00	2.89E-04	2.70E-04	3.01E-04	4.87E-04	5.18E-04	6.21E-04	7.20E-04	8.59E-04	
22	4.40E-03	2.73E-04	0.28	0.00E+00	0.00E+00	2.92E-04	2.73E-04	3.04E-04	4.90E-04	5.21E-04	6.21E-04	7.20E-04	8.59E-04	
24	4.00E-03	2.61E-04	0.29	0.00E+00	0.00E+00	2.95E-04	2.76E-04	3.07E-04	4.93E-04	5.24E-04	6.21E-04	7.20E-04	8.59E-04	
26	3.60E-03	2.49E-04	0.30	0.00E+00	0.00E+00	2.98E-04	2.79E-04	3.10E-04	4.96E-04	5.27E-04	6.21E-04	7.20E-04	8.59E-04	
28	3.20E-03	2.37E-04	0.31	0.00E+00	0.00E+00	3.01E-04	2.82E-04	3.13E-04	4.99E-04	5.30E-04	6.21E-04	7.20E-04	8.59E-04	
30	2.80E-03	2.25E-04	0.32	0.00E+00	0.00E+00	3.04E-04	2.85E-04	3.16E-04	5.02E-04	5.33E-04	6.21E-04	7.20E-04	8.59E-04	
32	2.40E-03	2.13E-04	0.33	0.00E+00	0.00E+00	3.07E-04	2.88E-04	3.19E-04	5.05E-04	5.36E-04	6.21E-04	7.20E-04	8.59E-04	
34	2.00E-03	2.01E-04	0.34	0.00E+00	0.00E+00	3.10E-04	2.91E-04	3.22E-04	5.08E-04	5.39E-04	6.21E-04	7.20E-04	8.59E-04	
36	1.60E-03	1.89E-04	0.35	0.00E+00	0.00E+00	3.13E-04	2.94E-04	3.25E-04	5.11E-04	5.42E-04	6.21E-04	7.20E-04	8.59E-04	
38	1.20E-03	1.77E-04	0.36	0.00E+00	0.00E+00	3.16E-04	2.97E-04	3.28E-04	5.14E-04	5.45E-04	6.21E-04	7.20E-04	8.59E-04	
40	8.00E-04	1.65E-04	0.37	0.00E+00	0.00E+00	3.19E-04	3.00E-04	3.31E-04	5.17E-04	5.48E-04	6.21E-04	7.20E-04	8.59E-04	
42	6.40E-04	1.53E-04	0.38	0.00E+00	0.00E+00	3.22E-04	3.03E-04	3.34E-04	5.20E-04	5.51E-04	6.21E-04	7.20E-04	8.59E-04	
44	4.80E-04	1.41E-04	0.39	0.00E+00	0.00E+00	3.25E-04	3.06E-04	3.37E-04	5.23E-04	5.54E-04	6.21E-04	7.20E-04	8.59E-04	
46	3.20E-04	1.29E-04	0.40	0.00E+00	0.00E+00	3.28E-04	3.09E-04	3.40E-04	5.26E-04	5.57E-04	6.21E-04	7.20E-04	8.59E-04	
48	1.60E-04	1.17E-04	0.41	0.00E+00	0.00E+00	3.31E-04	3.12E-04	3.43E-04	5.29E-04	5.60E-04	6.21E-04	7.20E-04	8.59E-04	
50	8.00E-05	1.05E-04	0.42	0.00E+00	0.00E+00	3.34E-04	3.15E-04	3.46E-04	5.32E-04	5.63E-04	6.21E-04	7.20E-04	8.59E-04	
52	4.00E-05	9.3E-05	0.43	0.00E+00	0.00E+00	3.37E-04	3.18E-04	3.49E-04	5.35E-04	5.66E-04	6.21E-04	7.20E-04	8.59E-04	
54	2.00E-05	8.1E-05	0.44	0.00E+00	0.00E+00	3.40E-04	3.21E-04	3.52E-04	5.38E-04	5.69E-04	6.21E-04	7.20E-04	8.59E-04	
56	1.00E-05	7.0E-05	0.45	0.00E+00	0.00E+00	3.43E-04	3.24E-04	3.55E-04	5.41E-04	5.72E-04	6.21E-04	7.20E-04	8.59E-04	
58	5.00E-06	6.0E-05	0.46	0.00E+00	0.00E+00	3.46E-04	3.27E-04	3.58E-04	5.44E-04	5.75E-04	6.21E-04	7.20E-04	8.59E-04	
60	2.50E-06	5.0E-05	0.47	0.00E+00	0.00E+00	3.49E-04	3.30E-04	3.61E-04	5.47E-04	5.78E-04	6.21E-04	7.20E-04	8.59E-04	
62	1.25E-06	4.0E-05	0.48	0.00E+00	0.00E+00	3.52E-04	3.33E-04	3.64E-04	5.50E-04	5.81E-04	6.21E-04	7.20E-04	8.59E-04	
64	6.25E-07	3.0E-05	0.49	0.00E+00	0.00E+00	3.55E-04	3.36E-04	3.67E-04	5.53E-04	5.84E-04	6.21E-04	7.20E-04	8.59E-04	
66	3.12E-07	2.0E-05	0.50	0.00E+00	0.00E+00	3.58E-04	3.39E-04	3.70E-04	5.56E-04	5.87E-04	6.21E-04	7.20E-04	8.59E-04	
68	1.56E-07	1.0E-05	0.51	0.00E+00	0.00E+00	3.61E-04	3.42E-04	3.73E-04	5.59E-04	5.90E-04	6.21E-04	7.20E-04	8.59E-04	
70	7.81E-08	5.0E-06	0.52	0.00E+00	0.00E+00	3.64E-04	3.45E-04	3.76E-04	5.62E-04	5.93E-04	6.21E-04	7.20E-04	8.59E-04	
72	3.90E-08	2.5E-06	0.53	0.00E+00	0.00E+00	3.67E-04	3.48E-04	3.79E-04	5.65E-04	5.96E-04	6.21E-04	7.20E-04	8.59E-04	
74	1.95E-08	1.25E-06	0.54	0.00E+00	0.00E+00	3.70E-04	3.51E-04	3.82E-04	5.68E-04	5.99E-04	6.21E-04	7.20E-04	8.59E-04	
76	9.75E-09	6.25E-07	0.55	0.00E+00	0.00E+00	3.73E-04	3.54E-04	3.85E-04	5.71E-04	6.02E-04	6.21E-04	7.20E-04	8.59E-04	
78	4.87E-09	3.12E-07	0.56	0.00E+00	0.00E+00	3.76E-04	3.57E-04	3.88E-04	5.74E-04	6.05E-04	6.21E-04	7.20E-04	8.59E-04	
80	2.43E-09	1.56E-07	0.57	0.00E+00	0.00E+00	3.79E-04	3.60E-04	3.91E-04	5.77E-04	6.08E-04	6.21E-04	7.20E-04	8.59E-04	
82	1.21E-09	7.81E-08	0.58	0.00E+00	0.00E+00	3.82E-04	3.63E-04	3.94E-04	5.80E-04	6.11E-04	6.21E-04	7.20E-04	8.59E-04	
84	6.05E-10	3.90E-08	0.59	0.00E+00	0.00E+00	3.85E-04	3.66E-04	3.97E-04	5.83E-04	6.14E-04	6.21E-04	7.20E-04	8.59E-04	
86	3.02E-10	1.95E-08	0.60	0.00E+00	0.00E+00	3.88E-04	3.69E-04	4.00E-04	5.86E-04	6.17E-04	6.21E-04	7.20E-04	8.59E-04	
88	1.51E-10	9.75E-09	0.61	0.00E+00	0.00E+00	3.91E-04	3.72E-04	4.03E-04	5.89E-04	6.20E-04	6.21E-04	7.20E-04	8.59E-04	
90	7.55E-11	4.87E-09	0.62	0.00E+00	0.00E+00	3.94E-04	3.75E-04	4.06E-04	5.92E-04	6.23E-04	6.21E-04	7.20E-04	8.59E-04	
92	3.77E-11	2.43E-09	0.63	0.00E+00	0.00E+00	3.97E-04	3.78E-04	4.09E-04	5.95E-04	6.26E-04	6.21E-04	7.20E-04	8.59E-04	
94	1.88E-11	1.21E-09	0.64	0.00E+00	0.00E+00	4.00E-04	3.81E-04	4.12E-04	5.98E-04	6.29E-04	6.21E-04	7.20E-04	8.59E-04	
96	9.40E-12	6.05E-10	0.65	0.00E+00	0.00E+00	4.03E-04	3.84E-04	4.15E-04	6.01E-04	6.32E-04	6.21E-04	7.20E-04	8.59E-04	
98	4.70E-12	3.02E-10	0.66	0.00E+00	0.00E+00	4.06E-04	3.87E-04	4.18E-04	6.04E-04	6.35E-04	6.21E-04	7.20E-04	8.59E-04	
100	2.35E-12	1.51E-10	0.67	0.00E+00	0.00E+00	4.09E-04	3.90E-04	4.21E-04	6.07E-04	6.38E-04	6.21E-04	7.20E-04	8.59E-04	
102	1.17E-12	7.55E-11	0.68	0.00E+00	0.00E+00	4.12E-04	3.93E-04	4.24E-04	6.10E-04	6.41E-04	6.21E-04	7.20E-04	8.59E-04	
104	5.85E-13	3.77E-11	0.69	0.00E+00	0.00E+00	4.15E-04	3.96E-04	4.27E-04	6.13E-04	6.44E-04	6.21E-04	7.20E-04	8.59E-04	
106	2.92E-13	1.88E-11	0.70	0.00E+00	0.00E+00	4.18E-04	3.99E-04	4.30E-04	6.16E-04	6.47E-04	6.21E-04	7.20E-04	8.59E-04	
108	1.46E-13	9.40E-12	0.71	0.00E+00	0.00E+00	4.21E-04	4.02E-04	4.33E-04	6.19E-04	6.50E-04	6.21E-04	7.20E-04	8.59E-04	
110	7.30E-14	4.70E-12	0.72	0.00E+00	0.00E+00	4.24E-04	4.05E-04	4.36E-04	6.22E-04	6.53E-04	6.21E-04	7.20E-04	8.59E-04	
112	3.65E-14	2.35E-12	0.73	0.00E+00	0.00E+00	4.27E-04	4.08E-04	4.39E-04	6.25E-04	6.56E-04	6.21E-04	7.20E-04	8.59E-04	
114	1.82E-14	1.17E-12	0.74	0.00E+00	0.00E+00	4.30E-04	4.11E-04	4.42E-04	6.28E-04	6.59E-04	6.21E-04	7.20E-04	8.59E-04	
116	9.10E-15	5.85E-13	0.75	0.00E+00	0.00E+00	4.33E-04	4.14E-04	4.45E-04	6.31E-04	6.62E-04	6.21E-04	7.20E-04	8.59E-04	
118	4.55E-15	2.92E-13	0.76	0.00E+00	0.00E+00	4.36E-04	4.17E-04	4.48E-04	6.34E-04	6.65E-04	6.21E-04	7.20E-04	8.59E-04	
120	2.27E-15	1.46E-13	0.77	0.00E+00	0.00E+00	4.39E-04	4.20E-04	4.51E-04	6.37E-04	6.68E-04	6.21E-04	7.20E-04	8.59E-04	
122	1.13E-15	7.30E-14	0.78	0.00E+00	0.00E+00	4.42E-04	4.23E-04	4.54E-04	6.40E-04	6.71E-04	6.21E-04	7.20E-04	8.59E-04	
124	5.65E-16	3.65E-14	0.79	0.00E+00	0.00E+00	4.45E-04	4.26E-04	4.57E-04	6.43E-04	6.74E-04	6.21E-04	7.20E-04	8.59E-04	
126	2.82E-16	1.82E-14	0.80	0.00E+00	0.00E+00	4.48E-04	4.29E-04	4.60E-04	6.46E-04	6.77E-04	6.21E-04	7.20E-04	8.59E-04	
128	1.41E-16	9.10E-15	0.81	0.00E+00	0.00E+00	4.51E-04	4.32E-04	4.63E-04	6.49E-04	6.80E-04	6.21E-04	7.20E-04	8.59E-04	
130	7.05E-17	4.55E-15	0.82	0.00E+00	0.00E+00	4.54E-04	4.35E-04	4.66E-04	6.52E-04	6.83E-04	6.21E-04	7.20E-04	8.59E-04	
132	3.52E-17	2.27E-15	0.83	0.00E+00	0.00E+00	4.57E-04	4.38E-04	4.69E-04	6.55E-04	6.86E-04	6.21E-04	7.20E-04	8.59E-04	
134	1.76E-17	1.13E-15	0.84	0.00E+00	0.00E+00	4.60E-04	4.41E-04	4.72E-04	6.58E-04	6.89E-04	6.21E-04	7.20E-04	8.59E-04	
136	8.80E-18	5.65E-16	0.85	0.00E+00	0.00E+00	4.63E-04	4.44E-04	4.75E-04	6.61E-04	6.92E-04	6.21E-04	7.20E-04	8.59E-04	
138	4.40E-18	2.82E-16	0.86	0.00E+00	0.00E+00	4.66E-04	4.47E-04	4.78E-04	6.64E-04	6.95E-04	6.21E-04	7.20E-04	8.59E-04	
140	2.20E-18	1.41E-16	0.87	0.00E+00	0.00E+00	4.69E-04	4.50E-04	4.81E-04	6.67E-04	6.98E-04	6.21E-04	7.20E-04	8.59E-04	
142	1.10E-18	7.05E-17	0.88	0.00E+00	0.00E+00	4.72E-04	4.53E-04	4.84E-04	6.70E-04	7.01E-04	6.21E-04	7.20E-04	8.59E-04	
144	5.50E-19	3.52E-17	0.89	0.00E+00	0.00E+00	4.75E-04	4.56E-04	4.87E-04	6.73E-04	7.04E-04	6.21E-04	7.20E-04	8.59E-04	
146	2.75E-19	1.76E-17	0.90	0.00E+00	0.00E+00	4.78E-04	4.59E-04	4.90E-04	6.76E-04	7.07E-04	6.21E-04	7.20E-04	8.59E-04	
148	1.37E-19	8.80E-18	0.91	0.00E+00	0.00E+00	4.81E-04	4.62E-04	4.93E-04	6.79E-04	7.10E-04	6.21E-04	7.20E-04	8.59E	

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

[illegible]

TABLE 24 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CL
BARR: TIME= 1989.2.0; PERIOD= 1.8723
MODEL= (ATOMIC-NU= 17; ATOMIC-W= 35.46)
63.6 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (G/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
39.62	6.27E-07	6.09E-07	6.12E-07	6.08E-07	5.97E-07	5.76E-07	5.92E-07	6.08E-07	7.95E-07	8.74E-07	8.52E-07
40.68	6.56E-07	6.38E-07	6.35E-07	6.22E-07	6.17E-07	6.05E-07	6.09E-07	6.26E-07	8.07E-07	8.88E-07	8.67E-07
41.74	6.85E-07	6.67E-07	6.64E-07	6.51E-07	6.46E-07	6.34E-07	6.38E-07	6.55E-07	8.37E-07	9.18E-07	8.97E-07
42.80	7.14E-07	6.96E-07	6.93E-07	6.80E-07	6.75E-07	6.63E-07	6.67E-07	6.84E-07	8.66E-07	9.47E-07	9.26E-07
43.86	7.43E-07	7.25E-07	7.22E-07	7.09E-07	7.04E-07	6.92E-07	6.96E-07	7.13E-07	8.95E-07	9.76E-07	9.55E-07
44.92	7.72E-07	7.54E-07	7.51E-07	7.38E-07	7.33E-07	7.21E-07	7.25E-07	7.42E-07	9.24E-07	1.005E-06	9.84E-07
45.98	8.01E-07	7.83E-07	7.80E-07	7.67E-07	7.62E-07	7.50E-07	7.54E-07	7.71E-07	9.53E-07	1.034E-06	1.013E-06
47.04	8.30E-07	8.12E-07	8.09E-07	7.96E-07	7.91E-07	7.79E-07	7.83E-07	8.00E-07	9.82E-07	1.063E-06	1.042E-06
48.10	8.59E-07	8.41E-07	8.38E-07	8.25E-07	8.20E-07	8.08E-07	8.12E-07	8.29E-07	1.011E-06	1.090E-06	1.069E-06
49.16	8.88E-07	8.70E-07	8.67E-07	8.54E-07	8.49E-07	8.37E-07	8.41E-07	8.58E-07	1.040E-06	1.119E-06	1.098E-06
50.22	9.17E-07	8.99E-07	8.96E-07	8.83E-07	8.78E-07	8.66E-07	8.70E-07	8.87E-07	1.069E-06	1.148E-06	1.127E-06
51.28	9.46E-07	9.28E-07	9.25E-07	9.12E-07	9.07E-07	8.95E-07	8.99E-07	9.16E-07	1.098E-06	1.177E-06	1.156E-06
52.34	9.75E-07	9.57E-07	9.54E-07	9.41E-07	9.36E-07	9.24E-07	9.28E-07	9.45E-07	1.127E-06	1.206E-06	1.185E-06
53.40	1.004E-06	9.86E-07	9.83E-07	9.70E-07	9.65E-07	9.53E-07	9.57E-07	9.74E-07	1.156E-06	1.235E-06	1.214E-06
54.46	1.033E-06	1.015E-06	1.012E-06	9.99E-07	9.94E-07	9.82E-07	9.86E-07	1.003E-06	1.185E-06	1.264E-06	1.243E-06
55.52	1.062E-06	1.044E-06	1.041E-06	1.028E-06	1.023E-06	1.011E-06	1.015E-06	1.032E-06	1.214E-06	1.293E-06	1.272E-06
56.58	1.091E-06	1.073E-06	1.070E-06	1.057E-06	1.052E-06	1.040E-06	1.044E-06	1.061E-06	1.243E-06	1.322E-06	1.301E-06
57.64	1.120E-06	1.102E-06	1.099E-06	1.086E-06	1.081E-06	1.069E-06	1.073E-06	1.090E-06	1.272E-06	1.351E-06	1.330E-06
58.70	1.149E-06	1.131E-06	1.128E-06	1.115E-06	1.110E-06	1.098E-06	1.102E-06	1.119E-06	1.301E-06	1.380E-06	1.359E-06
59.76	1.178E-06	1.160E-06	1.157E-06	1.144E-06	1.139E-06	1.127E-06	1.131E-06	1.148E-06	1.330E-06	1.409E-06	1.388E-06
60.82	1.207E-06	1.189E-06	1.186E-06	1.173E-06	1.168E-06	1.156E-06	1.160E-06	1.177E-06	1.359E-06	1.438E-06	1.417E-06
61.88	1.236E-06	1.218E-06	1.215E-06	1.202E-06	1.197E-06	1.185E-06	1.189E-06	1.206E-06	1.388E-06	1.467E-06	1.446E-06
62.94	1.265E-06	1.247E-06	1.244E-06	1.231E-06	1.226E-06	1.214E-06	1.218E-06	1.235E-06	1.417E-06	1.496E-06	1.475E-06
64.00	1.294E-06	1.276E-06	1.273E-06	1.260E-06	1.255E-06	1.243E-06	1.247E-06	1.264E-06	1.446E-06	1.525E-06	1.504E-06
65.06	1.323E-06	1.305E-06	1.302E-06	1.289E-06	1.284E-06	1.272E-06	1.276E-06	1.293E-06	1.475E-06	1.554E-06	1.533E-06
66.12	1.352E-06	1.334E-06	1.331E-06	1.318E-06	1.313E-06	1.301E-06	1.305E-06	1.322E-06	1.504E-06	1.583E-06	1.562E-06
67.18	1.381E-06	1.363E-06	1.360E-06	1.347E-06	1.342E-06	1.330E-06	1.334E-06	1.351E-06	1.533E-06	1.612E-06	1.591E-06
68.24	1.410E-06	1.392E-06	1.389E-06	1.376E-06	1.371E-06	1.359E-06	1.363E-06	1.380E-06	1.562E-06	1.641E-06	1.620E-06
69.30	1.439E-06	1.421E-06	1.418E-06	1.405E-06	1.400E-06	1.388E-06	1.392E-06	1.409E-06	1.591E-06	1.670E-06	1.649E-06
70.36	1.468E-06	1.450E-06	1.447E-06	1.434E-06	1.429E-06	1.417E-06	1.421E-06	1.438E-06	1.620E-06	1.699E-06	1.678E-06
71.42	1.497E-06	1.479E-06	1.476E-06	1.463E-06	1.458E-06	1.446E-06	1.450E-06	1.467E-06	1.649E-06	1.728E-06	1.707E-06
72.48	1.526E-06	1.508E-06	1.505E-06	1.492E-06	1.487E-06	1.475E-06	1.479E-06	1.496E-06	1.678E-06	1.757E-06	1.736E-06
73.54	1.555E-06	1.537E-06	1.534E-06	1.521E-06	1.516E-06	1.504E-06	1.508E-06	1.525E-06	1.707E-06	1.786E-06	1.765E-06
74.60	1.584E-06	1.566E-06	1.563E-06	1.550E-06	1.545E-06	1.533E-06	1.537E-06	1.554E-06	1.736E-06	1.815E-06	1.794E-06
75.66	1.613E-06	1.595E-06	1.592E-06	1.579E-06	1.574E-06	1.562E-06	1.566E-06	1.583E-06	1.765E-06	1.844E-06	1.823E-06
76.72	1.642E-06	1.624E-06	1.621E-06	1.608E-06	1.603E-06	1.591E-06	1.595E-06	1.612E-06	1.794E-06	1.873E-06	1.852E-06
77.78	1.671E-06	1.653E-06	1.650E-06	1.637E-06	1.632E-06	1.620E-06	1.624E-06	1.641E-06	1.823E-06	1.902E-06	1.881E-06
78.84	1.700E-06	1.682E-06	1.679E-06	1.666E-06	1.661E-06	1.649E-06	1.653E-06	1.670E-06	1.852E-06	1.931E-06	1.910E-06
79.90	1.729E-06	1.711E-06	1.708E-06	1.695E-06	1.690E-06	1.678E-06	1.682E-06	1.699E-06	1.881E-06	1.960E-06	1.939E-06
80.96	1.758E-06	1.740E-06	1.737E-06	1.724E-06	1.719E-06	1.707E-06	1.711E-06	1.728E-06	1.910E-06	1.989E-06	1.968E-06
82.02	1.787E-06	1.769E-06	1.766E-06	1.753E-06	1.748E-06	1.736E-06	1.740E-06	1.757E-06	1.939E-06	2.018E-06	1.997E-06
83.08	1.816E-06	1.798E-06	1.795E-06	1.782E-06	1.777E-06	1.765E-06	1.769E-06	1.786E-06	1.968E-06	2.047E-06	2.026E-06
84.14	1.845E-06	1.827E-06	1.824E-06	1.811E-06	1.806E-06	1.794E-06	1.798E-06	1.815E-06	1.997E-06	2.076E-06	2.055E-06
85.20	1.874E-06	1.856E-06	1.853E-06	1.840E-06	1.835E-06	1.823E-06	1.827E-06	1.844E-06	2.026E-06	2.105E-06	2.084E-06
86.26	1.903E-06	1.885E-06	1.882E-06	1.869E-06	1.864E-06	1.852E-06	1.856E-06	1.873E-06	2.055E-06	2.134E-06	2.113E-06
87.32	1.932E-06	1.914E-06	1.911E-06	1.898E-06	1.893E-06	1.881E-06	1.885E-06	1.902E-06	2.084E-06	2.163E-06	2.142E-06
88.38	1.961E-06	1.943E-06	1.940E-06	1.927E-06	1.922E-06	1.910E-06	1.914E-06	1.931E-06	2.113E-06	2.192E-06	2.171E-06
89.44	1.990E-06	1.972E-06	1.969E-06	1.956E-06	1.951E-06	1.939E-06	1.943E-06	1.960E-06	2.142E-06	2.221E-06	2.200E-06
90.50	2.019E-06	2.001E-06	1.998E-06	1.985E-06	1.980E-06	1.968E-06	1.972E-06	1.989E-06	2.171E-06	2.250E-06	2.229E-06
91.56	2.048E-06	2.030E-06	2.027E-06	2.014E-06	2.009E-06	1.997E-06	2.001E-06	2.018E-06	2.200E-06	2.279E-06	2.258E-06
92.62	2.077E-06	2.059E-06	2.056E-06	2.043E-06	2.038E-06	2.026E-06	2.030E-06	2.047E-06	2.229E-06	2.308E-06	2.287E-06
93.68	2.106E-06	2.088E-06	2.085E-06	2.072E-06	2.067E-06	2.055E-06	2.059E-06	2.076E-06	2.258E-06	2.337E-06	2.316E-06
94.74	2.135E-06	2.117E-06	2.114E-06	2.101E-06	2.096E-06	2.084E-06	2.088E-06	2.105E-06	2.287E-06	2.366E-06	2.345E-06
95.80	2.164E-06	2.146E-06	2.143E-06	2.130E-06	2.125E-06	2.113E-06	2.117E-06	2.134E-06	2.316E-06	2.395E-06	2.374E-06
96.86	2.193E-06	2.175E-06	2.172E-06	2.159E-06	2.154E-06	2.142E-06	2.146E-06	2.163E-06	2.345E-06	2.424E-06	2.403E-06
97.92	2.222E-06	2.204E-06	2.201E-06	2.188E-06	2.183E-06	2.171E-06	2.175E-06	2.192E-06	2.374E-06	2.453E-06	2.432E-06
98.98	2.251E-06	2.233E-06	2.230E-06	2.217E-06	2.212E-06	2.200E-06	2.204E-06	2.221E-06	2.403E-06	2.482E-06	2.461E-06
100.04	2.280E-06	2.262E-06	2.259E-06	2.246E-06	2.241E-06	2.229E-06	2.233E-06	2.250E-06	2.432E-06	2.511E-06	2.490E-06

TABLE 25 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: AR
MODEL: BARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NU= 18; ATOMIC-W= 39.94)
63.0 DEG/1334-1334 MM

MAGNETOSPHERICALLY														
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM ² *DAY*MEV/N)														
SHIELD THICKNESS (GM/CM ² *)														
EN- ERGY	UNATTEN- UATED	ATTEN- UATED	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0	
12	2.35E-05	1.94E-06	0.00E+00	0.00E+00	1.03E+00	7.01E-07	5.25E-07	3.48E-07	3.02E-07	3.95E-07	4.5E-07	4.5E-07	4.0E-07	
14	1.65E-05	1.59E-06	0.00E+00	0.00E+00	9.11E-07	6.41E-07	4.65E-07	3.28E-07	2.72E-07	3.55E-07	4.0E-07	4.0E-07	3.5E-07	
16	1.63E-05	1.59E-06	0.00E+00	0.00E+00	8.56E-07	5.84E-07	4.18E-07	2.90E-07	2.47E-07	3.25E-07	3.7E-07	3.7E-07	3.2E-07	
18	1.40E-05	1.33E-06	0.00E+00	0.00E+00	8.18E-07	5.31E-07	3.78E-07	2.77E-07	2.44E-07	3.15E-07	3.5E-07	3.5E-07	3.0E-07	
20	1.22E-05	1.23E-06	0.00E+00	0.00E+00	7.78E-07	4.92E-07	3.46E-07	2.64E-07	2.32E-07	2.95E-07	3.3E-07	3.3E-07	2.8E-07	
23	1.13E-05	1.18E-06	0.00E+00	0.00E+00	7.18E-07	4.37E-07	3.06E-07	2.44E-07	2.12E-07	2.68E-07	3.0E-07	3.0E-07	2.5E-07	
26	9.73E-06	1.11E-06	0.00E+00	0.00E+00	6.52E-07	3.92E-07	2.65E-07	2.10E-07	1.88E-07	2.32E-07	2.6E-07	2.6E-07	2.2E-07	
30	9.44E-06	1.14E-06	0.00E+00	0.00E+00	6.00E-07	3.57E-07	2.37E-07	1.91E-07	1.69E-07	2.17E-07	2.4E-07	2.4E-07	2.0E-07	
40	9.12E-06	1.19E-06	0.00E+00	0.00E+00	5.30E-07	3.11E-07	2.01E-07	1.66E-07	1.44E-07	1.88E-07	2.1E-07	2.1E-07	1.7E-07	
46	9.12E-06	1.27E-06	0.00E+00	0.00E+00	4.64E-07	2.65E-07	1.61E-07	1.36E-07	1.14E-07	1.58E-07	1.8E-07	1.8E-07	1.4E-07	
50	9.12E-06	1.32E-06	0.00E+00	0.00E+00	4.08E-07	2.24E-07	1.38E-07	1.13E-07	9.1E-08	1.32E-07	1.5E-07	1.5E-07	1.1E-07	
56	9.12E-06	1.37E-06	0.00E+00	0.00E+00	3.52E-07	1.87E-07	1.11E-07	9.0E-08	7.2E-08	1.11E-07	1.3E-07	1.3E-07	9.5E-08	
64	9.98E-06	1.54E-06	0.00E+00	0.00E+00	3.06E-07	1.59E-07	9.3E-08	7.6E-08	6.1E-08	9.5E-08	1.1E-07	1.1E-07	8.2E-08	
70	1.03E-05	1.68E-06	0.00E+00	0.00E+00	2.64E-07	1.39E-07	8.1E-08	6.6E-08	5.2E-08	8.4E-08	1.0E-07	1.0E-07	7.4E-08	
80	1.09E-05	1.91E-06	0.00E+00	0.00E+00	2.24E-07	1.17E-07	6.9E-08	5.6E-08	4.4E-08	7.2E-08	9.0E-08	9.0E-08	6.6E-08	
90	1.16E-05	2.14E-06	0.00E+00	0.00E+00	1.88E-07	9.5E-08	5.4E-08	4.4E-08	3.4E-08	5.9E-08	7.4E-08	7.4E-08	5.4E-08	
100	1.22E-05	2.36E-06	0.00E+00	0.00E+00	1.54E-07	7.9E-08	4.4E-08	3.6E-08	2.8E-08	4.9E-08	6.1E-08	6.1E-08	4.4E-08	
109	1.28E-05	2.57E-06	0.00E+00	0.00E+00	1.26E-07	6.0E-08	3.6E-08	2.9E-08	2.2E-08	3.9E-08	4.9E-08	4.9E-08	3.5E-08	
133	1.45E-05	3.30E-06	0.00E+00	0.00E+00	8.44E-08	4.0E-08	2.4E-08	1.9E-08	1.4E-08	2.5E-08	3.1E-08	3.1E-08	2.2E-08	
162	1.64E-05	4.39E-06	0.00E+00	0.00E+00	5.58E-08	2.6E-08	1.5E-08	1.1E-08	8.2E-09	1.5E-08	1.9E-08	1.9E-08	1.3E-08	
200	1.87E-05	5.59E-06	0.00E+00	0.00E+00	3.78E-08	1.6E-08	9.5E-09	6.8E-09	5.0E-09	9.5E-09	1.2E-08	1.2E-08	8.2E-09	
260	2.67E-05	8.60E-06	0.00E+00	0.00E+00	2.24E-08	9.2E-09	5.3E-09	3.6E-09	2.6E-09	4.9E-09	6.1E-09	6.1E-09	4.2E-09	
313	3.07E-05	9.76E-06	0.00E+00	0.00E+00	1.36E-08	5.4E-09	3.2E-09	2.1E-09	1.5E-09	2.9E-09	3.6E-09	3.6E-09	2.5E-09	
397	3.67E-05	1.17E-05	0.00E+00	0.00E+00	8.44E-09	3.5E-09	2.0E-09	1.3E-09	9.2E-10	1.8E-09	2.2E-09	2.2E-09	1.5E-09	
400	3.67E-05	1.17E-05	0.00E+00	0.00E+00	8.44E-09	3.5E-09	2.0E-09	1.3E-09	9.2E-10	1.8E-09	2.2E-09	2.2E-09	1.5E-09	
500	5.98E-05	1.78E-05	0.00E+00	0.00E+00	5.32E-09	2.2E-09	1.2E-09	7.5E-10	5.2E-10	1.1E-09	1.3E-09	1.3E-09	9.0E-10	
600	8.70E-05	2.57E-05	0.00E+00	0.00E+00	3.78E-09	1.6E-09	8.2E-10	5.0E-10	3.4E-10	7.2E-10	8.8E-10	8.8E-10	6.0E-10	
640	1.00E-04	2.93E-05	0.00E+00	0.00E+00	3.06E-09	1.3E-09	6.6E-10	4.1E-10	2.8E-10	5.9E-10	7.2E-10	7.2E-10	5.0E-10	
700	1.65E-04	4.22E-05	0.00E+00	0.00E+00	1.92E-09	8.4E-10	4.2E-10	2.6E-10	1.7E-10	3.6E-10	4.4E-10	4.4E-10	3.0E-10	
800	2.07E-04	5.27E-05	0.00E+00	0.00E+00	1.32E-09	5.7E-10	2.9E-10	1.8E-10	1.1E-10	2.5E-10	3.0E-10	3.0E-10	2.0E-10	
865	2.36E-04	5.93E-05	0.00E+00	0.00E+00	1.15E-09	5.0E-10	2.5E-10	1.5E-10	9.2E-11	2.2E-10	2.7E-10	2.7E-10	1.8E-10	
1000	3.71E-04	8.78E-05	0.00E+00	0.00E+00	6.43E-10	2.7E-10	1.3E-10	8.0E-11	4.8E-11	1.2E-10	1.5E-10	1.5E-10	1.0E-10	
1147	5.71E-04	1.35E-04	0.00E+00	0.00E+00	4.08E-10	1.6E-10	8.0E-11	4.9E-11	2.9E-11	7.2E-11	8.8E-11	8.8E-11	6.0E-11	
1545	7.41E-04	1.85E-04	0.00E+00	0.00E+00	2.44E-10	9.1E-11	4.7E-11	2.9E-11	1.7E-11	4.2E-11	5.1E-11	5.1E-11	3.4E-11	
2000	4.56E-04	2.80E-04	0.00E+00	0.00E+00	1.05E-10	3.9E-11	1.9E-11	1.1E-11	6.5E-12	1.6E-11	1.9E-11	1.9E-11	1.3E-11	
2120	4.56E-04	2.80E-04	0.00E+00	0.00E+00	1.05E-10	3.9E-11	1.9E-11	1.1E-11	6.5E-12	1.6E-11	1.9E-11	1.9E-11	1.3E-11	
2977	2.42E-04	1.58E-04	0.00E+00	0.00E+00	1.11E-10	4.1E-11	2.0E-11	1.2E-11	7.0E-12	1.7E-11	2.0E-11	2.0E-11	1.4E-11	

TABLE 26A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: AR
 MODEL=BBR; TIME=1984-2-01; PERIOD=1.8723
 (ATOMIC-NU=18; ATOMIC-W=39.94)
 63.0-DEG/1334-1334-KM

 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (CM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
39.62	1.72E-06	1.52E-06	1.42E-06	1.32E-06	1.22E-06	1.07E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
40.68	1.72E-06	1.52E-06	1.42E-06	1.32E-06	1.22E-06	1.07E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
50.82	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
64.07	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
72.26	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
81.49	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
103.63	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
116.86	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
131.79	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
148.60	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
167.60	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
187.60	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
213.15	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
240.38	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
271.08	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
305.70	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
344.74	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
389.43	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
439.43	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
494.57	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
557.57	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
628.79	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
709.09	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
799.09	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
899.09	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
1017.00	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
1146.00	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
1293.00	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
1458.50	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
1644.50	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
1854.50	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
2091.50	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
2358.00	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06
2660.00	1.52E-06	1.32E-06	1.22E-06	1.12E-06	1.02E-06	1.02E-06	1.12E-06	1.22E-06	1.40E-06	1.52E-06	1.59E-06

TABLE 26 B

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: K
MODEL= BARR; TIME= 1989-2-01; PERIOD= 1.8723
(ATOMIC-NUM= 19; ATOMIC-W= 39.10)
63+0 DEG/1334-1334 NM

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (G/CM**2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	1.58E-05	1.06E-06	0.20	0.00E+00	0.00E+00	5.94E-07	3.82E-07	3.52E-07	2.28E-07	2.23E-07	2.75E-07	3.03E-07	3.44E-07	3.55E-07
14	1.29E-05	8.06E-07	0.25	0.00E+00	0.00E+00	5.42E-07	3.46E-07	3.16E-07	2.05E-07	2.00E-07	2.48E-07	2.72E-07	3.08E-07	3.18E-07
16	1.09E-05	6.61E-07	0.30	0.00E+00	0.00E+00	4.92E-07	3.04E-07	2.74E-07	1.80E-07	1.75E-07	2.18E-07	2.38E-07	2.70E-07	2.78E-07
18	9.39E-06	5.55E-07	0.35	0.00E+00	0.00E+00	4.42E-07	2.74E-07	2.44E-07	1.60E-07	1.55E-07	1.92E-07	2.08E-07	2.35E-07	2.41E-07
20	7.89E-06	4.69E-07	0.40	0.00E+00	0.00E+00	4.00E-07	2.44E-07	2.14E-07	1.40E-07	1.35E-07	1.68E-07	1.80E-07	2.02E-07	2.06E-07
23	7.24E-06	4.39E-07	0.45	0.00E+00	0.00E+00	3.68E-07	2.24E-07	1.94E-07	1.30E-07	1.25E-07	1.52E-07	1.60E-07	1.78E-07	1.81E-07
25	6.72E-06	4.09E-07	0.50	0.00E+00	0.00E+00	3.36E-07	2.04E-07	1.74E-07	1.20E-07	1.15E-07	1.38E-07	1.42E-07	1.56E-07	1.58E-07
28	6.20E-06	3.79E-07	0.55	0.00E+00	0.00E+00	3.04E-07	1.84E-07	1.54E-07	1.10E-07	1.05E-07	1.25E-07	1.28E-07	1.39E-07	1.41E-07
30	5.80E-06	3.49E-07	0.60	0.00E+00	0.00E+00	2.72E-07	1.64E-07	1.34E-07	1.00E-07	9.50E-08	1.12E-07	1.14E-07	1.23E-07	1.25E-07
34	5.08E-06	3.19E-07	0.65	0.00E+00	0.00E+00	2.40E-07	1.44E-07	1.14E-07	9.00E-08	8.50E-08	1.00E-07	1.01E-07	1.08E-07	1.10E-07
40	4.36E-06	2.89E-07	0.70	0.00E+00	0.00E+00	2.08E-07	1.24E-07	9.40E-08	7.60E-08	7.10E-08	8.20E-08	8.20E-08	8.70E-08	8.80E-08
46	3.84E-06	2.59E-07	0.75	0.00E+00	0.00E+00	1.76E-07	1.04E-07	7.40E-08	6.00E-08	5.50E-08	6.40E-08	6.40E-08	6.80E-08	6.90E-08
50	3.44E-06	2.29E-07	0.80	0.00E+00	0.00E+00	1.44E-07	8.40E-08	5.40E-08	4.60E-08	4.10E-08	4.80E-08	4.80E-08	5.10E-08	5.20E-08
54	3.04E-06	2.09E-07	0.85	0.00E+00	0.00E+00	1.12E-07	6.40E-08	3.40E-08	3.00E-08	2.50E-08	2.80E-08	2.80E-08	2.90E-08	3.00E-08
60	2.64E-06	1.89E-07	0.90	0.00E+00	0.00E+00	8.00E-08	4.40E-08	2.40E-08	2.00E-08	1.50E-08	1.60E-08	1.60E-08	1.60E-08	1.60E-08
64	2.44E-06	1.79E-07	0.95	0.00E+00	0.00E+00	7.20E-08	3.60E-08	1.60E-08	1.40E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
70	2.04E-06	1.59E-07	1.00	0.00E+00	0.00E+00	6.40E-08	2.80E-08	1.20E-08	1.00E-08	7.00E-09	7.00E-09	7.00E-09	7.00E-09	7.00E-09
76	1.84E-06	1.49E-07	1.05	0.00E+00	0.00E+00	5.60E-08	2.00E-08	8.00E-09	6.00E-09	4.00E-09	4.00E-09	4.00E-09	4.00E-09	4.00E-09
80	1.64E-06	1.39E-07	1.10	0.00E+00	0.00E+00	4.80E-08	1.20E-08	6.00E-09	4.00E-09	2.00E-09	2.00E-09	2.00E-09	2.00E-09	2.00E-09
90	1.24E-06	1.19E-07	1.15	0.00E+00	0.00E+00	4.00E-08	8.00E-09	4.00E-09	2.00E-09	1.00E-09	1.00E-09	1.00E-09	1.00E-09	1.00E-09
100	1.04E-06	1.09E-07	1.20	0.00E+00	0.00E+00	3.20E-08	6.00E-09	3.00E-09	1.00E-09	5.00E-10	5.00E-10	5.00E-10	5.00E-10	5.00E-10
109	8.25E-07	8.55E-08	1.25	0.00E+00	0.00E+00	2.40E-08	4.00E-09	2.00E-09	8.00E-10	4.00E-10	4.00E-10	4.00E-10	4.00E-10	4.00E-10
120	7.35E-07	7.65E-08	1.30	0.00E+00	0.00E+00	1.60E-08	2.00E-09	1.00E-09	4.00E-10	2.00E-10	2.00E-10	2.00E-10	2.00E-10	2.00E-10
130	6.45E-07	6.75E-08	1.35	0.00E+00	0.00E+00	8.00E-09	1.00E-09	5.00E-10	2.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10
140	5.55E-07	5.85E-08	1.40	0.00E+00	0.00E+00	6.40E-09	8.00E-10	4.00E-10	1.00E-10	5.00E-11	5.00E-11	5.00E-11	5.00E-11	5.00E-11
150	4.65E-07	4.95E-08	1.45	0.00E+00	0.00E+00	4.80E-09	6.00E-10	3.00E-10	8.00E-11	4.00E-11	4.00E-11	4.00E-11	4.00E-11	4.00E-11
160	3.75E-07	4.05E-08	1.50	0.00E+00	0.00E+00	3.20E-09	4.00E-10	2.00E-10	4.00E-11	2.00E-11	2.00E-11	2.00E-11	2.00E-11	2.00E-11
170	2.85E-07	3.15E-08	1.55	0.00E+00	0.00E+00	1.60E-09	2.00E-10	1.00E-10	2.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11
180	1.95E-07	2.25E-08	1.60	0.00E+00	0.00E+00	8.00E-10	1.00E-10	5.00E-11	1.00E-11	5.00E-12	5.00E-12	5.00E-12	5.00E-12	5.00E-12
190	1.05E-07	1.35E-08	1.65	0.00E+00	0.00E+00	4.00E-10	5.00E-11	2.00E-11	5.00E-12	2.00E-12	2.00E-12	2.00E-12	2.00E-12	2.00E-12
200	6.55E-08	8.55E-09	1.70	0.00E+00	0.00E+00	2.40E-10	3.00E-11	1.00E-11	2.00E-12	1.00E-12	1.00E-12	1.00E-12	1.00E-12	1.00E-12
210	4.65E-08	6.65E-09	1.75	0.00E+00	0.00E+00	1.60E-10	2.00E-11	8.00E-12	1.00E-12	5.00E-13	5.00E-13	5.00E-13	5.00E-13	5.00E-13
220	3.75E-08	5.75E-09	1.80	0.00E+00	0.00E+00	8.00E-11	1.00E-11	4.00E-12	5.00E-13	2.00E-13	2.00E-13	2.00E-13	2.00E-13	2.00E-13
230	2.85E-08	4.85E-09	1.85	0.00E+00	0.00E+00	4.00E-11	5.00E-12	2.00E-12	2.00E-13	1.00E-13	1.00E-13	1.00E-13	1.00E-13	1.00E-13
240	1.95E-08	3.95E-09	1.90	0.00E+00	0.00E+00	2.40E-11	3.00E-12	1.00E-12	1.00E-13	5.00E-14	5.00E-14	5.00E-14	5.00E-14	5.00E-14
250	1.05E-08	3.05E-09	1.95	0.00E+00	0.00E+00	1.60E-11	2.00E-12	8.00E-13	5.00E-14	2.00E-14	2.00E-14	2.00E-14	2.00E-14	2.00E-14
260	6.55E-09	2.15E-09	2.00	0.00E+00	0.00E+00	8.00E-12	1.00E-12	4.00E-13	2.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14
270	4.65E-09	1.25E-09	2.05	0.00E+00	0.00E+00	4.00E-12	5.00E-13	2.00E-13	1.00E-14	5.00E-15	5.00E-15	5.00E-15	5.00E-15	5.00E-15
280	2.85E-09	8.55E-10	2.10	0.00E+00	0.00E+00	2.40E-12	3.00E-13	1.00E-13	5.00E-15	2.00E-15	2.00E-15	2.00E-15	2.00E-15	2.00E-15
290	1.95E-09	7.65E-10	2.15	0.00E+00	0.00E+00	1.60E-12	2.00E-13	8.00E-14	2.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15
300	1.05E-09	6.75E-10	2.20	0.00E+00	0.00E+00	8.00E-13	1.00E-13	4.00E-14	1.00E-15	5.00E-16	5.00E-16	5.00E-16	5.00E-16	5.00E-16
310	6.55E-10	5.85E-10	2.25	0.00E+00	0.00E+00	4.00E-13	5.00E-14	2.00E-14	5.00E-16	2.00E-16	2.00E-16	2.00E-16	2.00E-16	2.00E-16
320	4.65E-10	4.95E-10	2.30	0.00E+00	0.00E+00	2.40E-13	3.00E-14	1.00E-14	2.00E-16	1.00E-16	1.00E-16	1.00E-16	1.00E-16	1.00E-16
330	2.85E-10	4.05E-10	2.35	0.00E+00	0.00E+00	1.60E-13	2.00E-14	8.00E-15	1.00E-16	5.00E-17	5.00E-17	5.00E-17	5.00E-17	5.00E-17
340	1.95E-10	3.15E-10	2.40	0.00E+00	0.00E+00	8.00E-14	1.00E-14	4.00E-15	5.00E-17	2.00E-17	2.00E-17	2.00E-17	2.00E-17	2.00E-17
350	1.05E-10	2.25E-10	2.45	0.00E+00	0.00E+00	4.00E-14	5.00E-15	2.00E-15	2.00E-17	1.00E-17	1.00E-17	1.00E-17	1.00E-17	1.00E-17
360	6.55E-11	1.35E-10	2.50	0.00E+00	0.00E+00	2.40E-14	3.00E-15	1.00E-15	1.00E-17	5.00E-18	5.00E-18	5.00E-18	5.00E-18	5.00E-18
370	4.65E-11	1.05E-10	2.55	0.00E+00	0.00E+00	1.60E-14	2.00E-15	8.00E-16	5.00E-18	2.00E-18	2.00E-18	2.00E-18	2.00E-18	2.00E-18
380	2.85E-11	9.65E-11	2.60	0.00E+00	0.00E+00	8.00E-15	1.00E-15	4.00E-16	2.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18
390	1.95E-11	8.75E-11	2.65	0.00E+00	0.00E+00	4.00E-15	5.00E-16	2.00E-16	1.00E-18	5.00E-19	5.00E-19	5.00E-19	5.00E-19	5.00E-19
400	1.05E-11	7.85E-11	2.70	0.00E+00	0.00E+00	2.40E-15	3.00E-16	1.00E-16	5.00E-19	2.00E-19	2.00E-19	2.00E-19	2.00E-19	2.00E-19
410	6.55E-12	6.95E-11	2.75	0.00E+00	0.00E+00	1.60E-15	2.00E-16	8.00E-17	2.00E-19	1.00E-19	1.00E-19	1.00E-19	1.00E-19	1.00E-19
420	4.65E-12	6.05E-11	2.80	0.00E+00	0.00E+00	8.00E-16	1.00E-16	4.00E-17	1.00E-19	5.00E-20	5.00E-20	5.00E-20	5.00E-20	5.00E-20
430	2.85E-12	5.15E-11	2.85	0.00E+00	0.00E+00	4.00E-16	5.00E-17	2.00E-17	5.00E-20	2.00E-20	2.00E-20	2.00E-20	2.00E-20	2.00E-20
440	1.95E-12	4.25E-11	2.90	0.00E+00	0.00E+00	2.40E-16	3.00E-17	1.00E-17	2.00E-20	1.00E-20	1.00E-20	1.00E-20	1.00E-20	1.00E-20
450	1.05E-12	3.35E-11	2.95	0.00E+00	0.00E+00	1.60E-16	2.00E-17	8.00E-18	1.00E-20	5.00E-21	5.00E-21	5.00E-21	5.00E-21	5.00E-21
460	6.55E-13	2.45E-11	3.00	0.00E+00	0.00E+00	8.00E-17	1.00E-17	4.00E-18	5.00E-21	2.00E-21	2.00E-21	2.00E-21	2.00E-21	2.00E-21
470	4.65E-13	1.55E-11	3.05	0.00E+00	0.00E+00	4.00E-17	5.00E-18	2.00E-18	2.00E-21	1.00E-21	1.00E-21	1.00E-21	1.00E-21	1.00E-21
480	2.85E-13	1.25E-11	3.10	0.00E+00	0.00E+00	2.40E-17	3.00E-18	1.00E-18	1.00E-21	5.00E-22	5.00E-22	5.00E-22	5.00E-22	5.00E-22
490	1.95E-13	1.05E-11	3.15	0.00E+00	0.00E+00	1.60E-17	2.00E-18	8.00E-19	5.00E-22	2.00E-22	2.00E-22	2.00E-22	2.00E-22	2.00E-22
500	1.05E-13	9.65E-12	3.20	0.00E+00	0.00E+00	8.00E-18	1.00E-18	4.00E-19	2.00E-22	1.00E-22	1.00E-22	1.00E-22	1.00E-22	1.00E-22
510	6.55E-14	8.75E-12	3.25	0.00E+00	0.00E+00	4.00E-18	5.00E-19	2.00E-19	1.00E-22	5.00E-23	5.00E-23	5.00E-23	5.00E-23	5.00E-23
520	4.65E-14	7.85E-12	3.30	0.00E+00	0.00E+00	2.40E-18	3.0							


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TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: K
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
      (ATOMIC-NUM= 19; ATOMIC-W= 39.10)
      63.0 DEG/13.34-13.34 KM

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DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²*DAY*MEV/N)

[illegible]

TABLE 27 B

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CA
MODEL: 1989.2.0; PERIOD= 1.8723
ATOMIC-NO= 20; ATOMIC-W= 40.08
63.0 DEG/133-133-88

MAGNETOSPHERICALLY

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

EN- ERG	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	3.03E-05	3.19E-06	0.20	0.00E+00	0.00E+00	1.53E-06	1.08E-06	8.04E-07	6.12E-07	5.66E-07	6.36E-07	8.48E-07	8.77E-07	8.92E-07
13	3.00E-05	2.78E-06	0.23	0.00E+00	0.00E+00	1.45E-06	9.95E-07	7.46E-07	5.45E-07	5.00E-07	5.70E-07	7.82E-07	8.11E-07	8.26E-07
14	2.96E-05	2.44E-06	0.25	0.00E+00	0.00E+00	1.36E-06	8.99E-07	6.72E-07	4.82E-07	4.47E-07	5.17E-07	7.29E-07	7.58E-07	7.73E-07
16	2.90E-05	2.18E-06	0.29	0.00E+00	0.00E+00	1.28E-06	8.58E-07	6.38E-07	4.52E-07	4.17E-07	4.87E-07	6.99E-07	7.28E-07	7.43E-07
18	2.80E-05	2.03E-06	0.32	0.00E+00	0.00E+00	1.20E-06	8.10E-07	6.03E-07	4.26E-07	3.91E-07	4.61E-07	6.73E-07	7.02E-07	7.17E-07
20	2.70E-05	1.87E-06	0.36	0.00E+00	0.00E+00	1.15E-06	7.65E-07	5.63E-07	3.95E-07	3.60E-07	4.30E-07	6.42E-07	6.71E-07	6.86E-07
23	1.55E-05	1.44E-06	0.41	0.00E+00	0.00E+00	1.08E-06	7.18E-07	5.17E-07	3.67E-07	3.32E-07	4.02E-07	6.14E-07	6.43E-07	6.58E-07
26	1.40E-05	1.32E-06	0.44	0.00E+00	0.00E+00	1.02E-06	6.72E-07	4.82E-07	3.40E-07	3.05E-07	3.75E-07	5.87E-07	6.16E-07	6.31E-07
30	1.20E-05	1.18E-06	0.50	0.00E+00	0.00E+00	9.50E-07	6.25E-07	4.45E-07	3.13E-07	2.78E-07	3.48E-07	5.60E-07	5.89E-07	6.04E-07
34	1.05E-05	1.06E-06	0.59	0.00E+00	0.00E+00	8.70E-07	5.78E-07	4.04E-07	2.82E-07	2.47E-07	3.17E-07	5.29E-07	5.58E-07	5.73E-07
40	1.00E-05	1.00E-06	0.67	0.00E+00	0.00E+00	8.00E-07	5.31E-07	3.73E-07	2.55E-07	2.20E-07	2.90E-07	5.02E-07	5.31E-07	5.46E-07
46	1.00E-05	1.00E-06	0.75	0.00E+00	0.00E+00	7.40E-07	4.86E-07	3.42E-07	2.33E-07	1.98E-07	2.68E-07	4.80E-07	5.09E-07	5.24E-07
50	1.50E-05	2.16E-06	0.85	0.00E+00	0.00E+00	6.80E-07	4.41E-07	3.00E-07	2.11E-07	1.76E-07	2.46E-07	4.58E-07	4.87E-07	5.02E-07
54	1.50E-05	2.16E-06	0.95	0.00E+00	0.00E+00	6.30E-07	4.06E-07	2.75E-07	1.91E-07	1.56E-07	2.26E-07	4.30E-07	4.59E-07	4.74E-07
60	1.50E-05	2.16E-06	1.05	0.00E+00	0.00E+00	5.80E-07	3.70E-07	2.50E-07	1.76E-07	1.41E-07	2.11E-07	4.12E-07	4.41E-07	4.56E-07
66	1.50E-05	2.16E-06	1.21	0.00E+00	2.11E-07	5.30E-07	3.35E-07	2.25E-07	1.61E-07	1.26E-07	1.96E-07	4.04E-07	4.33E-07	4.48E-07
70	1.70E-05	2.35E-06	1.37	0.00E+00	2.11E-07	4.90E-07	3.00E-07	2.00E-07	1.46E-07	1.11E-07	1.81E-07	3.84E-07	4.13E-07	4.28E-07
76	1.70E-05	2.35E-06	1.54	0.00E+00	5.04E-07	4.50E-07	2.75E-07	1.85E-07	1.36E-07	1.01E-07	1.71E-07	3.74E-07	4.03E-07	4.18E-07
80	1.90E-05	2.53E-06	1.74	0.00E+00	6.44E-07	4.10E-07	2.50E-07	1.70E-07	1.26E-07	9.10E-08	1.61E-07	3.62E-07	3.91E-07	4.06E-07
90	1.90E-05	2.53E-06	1.96	0.00E+00	9.22E-07	3.70E-07	2.25E-07	1.55E-07	1.16E-07	8.10E-08	1.51E-07	3.50E-07	3.79E-07	3.94E-07
101	2.30E-05	3.15E-06	2.25	0.00E+00	1.21E-06	3.30E-07	2.00E-07	1.40E-07	1.01E-07	7.60E-08	1.41E-07	3.40E-07	3.69E-07	3.84E-07
109	2.30E-05	3.15E-06	2.49	0.00E+00	1.50E-06	2.90E-07	1.75E-07	1.25E-07	9.10E-08	6.70E-08	1.31E-07	3.30E-07	3.59E-07	3.74E-07
123	2.30E-05	3.15E-06	2.81	0.00E+00	1.79E-06	2.50E-07	1.50E-07	1.00E-07	7.60E-08	5.30E-08	1.21E-07	3.20E-07	3.49E-07	3.64E-07
133	2.30E-05	3.15E-06	3.17	0.00E+00	2.08E-06	2.10E-07	1.25E-07	8.10E-08	6.70E-08	4.80E-08	1.11E-07	3.10E-07	3.39E-07	3.54E-07
162	2.30E-05	3.15E-06	3.58	0.00E+00	2.37E-06	1.70E-07	1.00E-07	6.60E-08	5.30E-08	3.80E-08	1.01E-07	3.00E-07	3.29E-07	3.44E-07
200	2.30E-05	3.15E-06	4.04	0.00E+00	2.66E-06	1.40E-07	8.10E-08	5.10E-08	4.20E-08	3.00E-08	9.10E-08	2.90E-07	3.19E-07	3.34E-07
249	2.30E-05	3.15E-06	4.55	0.00E+00	2.95E-06	1.10E-07	6.60E-08	4.20E-08	3.40E-08	2.40E-08	8.10E-08	2.80E-07	3.09E-07	3.24E-07
300	2.30E-05	3.15E-06	5.09	0.00E+00	3.24E-06	9.10E-08	5.10E-08	3.40E-08	2.80E-08	2.00E-08	7.10E-08	2.70E-07	2.99E-07	3.14E-07
367	2.30E-05	3.15E-06	5.79	0.00E+00	3.53E-06	7.60E-08	4.20E-08	2.80E-08	2.40E-08	1.70E-08	6.10E-08	2.60E-07	2.89E-07	3.04E-07
400	2.30E-05	3.15E-06	6.33	0.00E+00	3.82E-06	6.10E-08	3.40E-08	2.20E-08	1.90E-08	1.40E-08	5.10E-08	2.50E-07	2.79E-07	2.94E-07
500	2.30E-05	3.15E-06	8.30	0.00E+00	4.41E-06	4.20E-08	2.20E-08	1.40E-08	1.20E-08	8.10E-09	4.10E-08	2.40E-07	2.69E-07	2.84E-07
600	2.30E-05	3.15E-06	10.36	0.00E+00	4.99E-06	3.30E-08	1.70E-08	1.00E-08	8.10E-09	5.30E-09	3.10E-08	2.30E-07	2.59E-07	2.74E-07
700	2.30E-05	3.15E-06	12.43	0.00E+00	5.58E-06	2.40E-08	1.20E-08	7.10E-09	5.30E-09	3.40E-09	2.10E-08	2.20E-07	2.49E-07	2.64E-07
800	2.30E-05	3.15E-06	14.49	0.00E+00	6.17E-06	1.50E-08	8.10E-09	4.20E-09	3.40E-09	2.20E-09	1.40E-08	2.10E-07	2.39E-07	2.54E-07
865	2.30E-05	3.15E-06	15.18	0.00E+00	6.46E-06	1.30E-08	7.10E-09	3.70E-09	3.00E-09	1.90E-09	1.20E-08	2.00E-07	2.29E-07	2.44E-07
900	2.30E-05	3.15E-06	15.75	0.00E+00	6.75E-06	1.10E-08	6.10E-09	3.20E-09	2.60E-09	1.70E-09	1.00E-08	1.90E-07	2.19E-07	2.34E-07
900	2.30E-05	3.15E-06	16.26	0.00E+00	7.04E-06	9.10E-09	5.10E-09	2.70E-09	2.20E-09	1.50E-09	9.10E-09	1.80E-07	2.09E-07	2.24E-07
1000	1.60E-05	2.22E-06	17.81	0.00E+00	7.73E-06	7.60E-09	4.20E-09	2.20E-09	1.80E-09	1.20E-09	7.10E-09	1.70E-07	1.99E-07	2.14E-07
1147	1.60E-05	2.22E-06	19.43	0.00E+00	8.42E-06	6.10E-09	3.40E-09	1.80E-09	1.40E-09	9.10E-10	5.10E-09	1.60E-07	1.89E-07	2.04E-07
1305	1.60E-05	2.22E-06	21.05	0.00E+00	9.11E-06	5.30E-09	2.90E-09	1.60E-09	1.20E-09	8.10E-10	4.10E-09	1.50E-07	1.79E-07	1.94E-07
1480	1.60E-05	2.22E-06	22.67	0.00E+00	9.80E-06	4.50E-09	2.40E-09	1.30E-09	1.00E-09	7.10E-10	3.10E-09	1.40E-07	1.69E-07	1.84E-07
2077	1.60E-05	2.22E-06	29.77	0.00E+00	1.17E-05	3.00E-09	1.70E-09	9.10E-10	7.10E-10	4.10E-10	2.10E-09	1.30E-07	1.59E-07	1.74E-07

TABLE 28 A

TGPEX COSMIC RAY ANALYSTS (SOLAR MINIMUM) FOR: CA
 MODEL= BARR; TIME= 1989-2-0; PERIOD= 1.8723
 (ATOMIC-NUM= 20; ATOMIC-W= 43.08)
 63.0 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/C*2*DAY*MEV/N) ———— SHIELD THICKNESS (GM/CM*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.20	0.50	1.0	3.0	5.0	10.0
39.68	0.6	0.85E-06	1.51E-06	1.83E-06	1.77E-06	1.95E-06	1.5E-06	0.4E-06	2.2E-06	7.1E-06	0.6
44.68	0.6	1.02E-06	1.02E-06	2.07E-06	1.97E-06	2.30E-06	2.30E-06	0.6E-06	4.9E-06	2.2E-06	0.6
49.68	0.6	0.91E-06	0.91E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
54.68	0.6	0.8E-06	0.8E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
59.68	0.6	0.7E-06	0.7E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
64.68	0.6	0.6E-06	0.6E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
69.68	0.6	0.5E-06	0.5E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
74.68	0.6	0.4E-06	0.4E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
79.68	0.6	0.3E-06	0.3E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
84.68	0.6	0.2E-06	0.2E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
89.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
94.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
99.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
104.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
109.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
114.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
119.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
124.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
129.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
134.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
139.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
144.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
149.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
154.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
159.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
164.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
169.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
174.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
179.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
184.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
189.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
194.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
199.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
204.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
209.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
214.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
219.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
224.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
229.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
234.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
239.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
244.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
249.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
254.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
259.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
264.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
269.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
274.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
279.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
284.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
289.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
294.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
299.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
304.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
309.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
314.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
319.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
324.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
329.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
334.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
339.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
344.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
349.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
354.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
359.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
364.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
369.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
374.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
379.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
384.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
389.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
394.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
399.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
404.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
409.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
414.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
419.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
424.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
429.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
434.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
439.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
444.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
449.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
454.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
459.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-06	0.6
464.68	0.6	0.1E-06	0.1E-06	2.07E-06	2.32E-06	2.49E-06	2.49E-06	0.6E-06	4.9E-06	2.2E-	

TABLE 28 B

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: SC
MODEL= HARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NUM= 21; ATOMIC-W= 44.96)
63.0 DE6/1334-1334-84

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

MAGNETOSPHERICALLY

SHIELD THICKNESS (GM/CM**2)

EN- ERGY	UNATTEN- UED	ATTEN- UED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	0.39E+06	7.62E-07	0.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	0.49E+06	9.98E-07	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	0.59E+06	1.22E-06	0.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	0.69E+06	1.51E-06	0.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	0.79E+06	1.84E-06	0.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	0.89E+06	2.21E-06	0.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	0.99E+06	2.62E-06	0.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	1.09E+06	3.07E-06	0.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	1.19E+06	3.56E-06	0.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	1.29E+06	4.09E-06	0.65	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	1.39E+06	4.66E-06	0.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	1.49E+06	5.27E-06	0.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	1.59E+06	5.92E-06	0.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	1.69E+06	6.61E-06	0.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	1.79E+06	7.34E-06	0.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	1.89E+06	8.11E-06	0.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	1.99E+06	8.92E-06	1.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	2.09E+06	9.77E-06	1.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
48	2.19E+06	1.066E-05	1.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	2.29E+06	1.159E-05	1.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	2.39E+06	1.256E-05	1.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	2.49E+06	1.357E-05	1.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	2.59E+06	1.462E-05	1.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	2.69E+06	1.571E-05	1.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	2.79E+06	1.684E-05	1.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	2.89E+06	1.801E-05	1.45	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	2.99E+06	1.922E-05	1.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	3.09E+06	2.047E-05	1.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	3.19E+06	2.176E-05	1.60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	3.29E+06	2.309E-05	1.65	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	3.39E+06	2.446E-05	1.70	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	3.49E+06	2.587E-05	1.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	3.59E+06	2.732E-05	1.80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	3.69E+06	2.881E-05	1.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	3.79E+06	3.034E-05	1.90	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	3.89E+06	3.191E-05	1.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	3.99E+06	3.352E-05	2.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	4.09E+06	3.517E-05	2.05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	4.19E+06	3.686E-05	2.10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	4.29E+06	3.859E-05	2.15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	4.39E+06	4.036E-05	2.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	4.49E+06	4.217E-05	2.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	4.59E+06	4.402E-05	2.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	4.69E+06	4.591E-05	2.35	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	4.79E+06	4.784E-05	2.40	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 29A

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ROPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: SC
MODEL= PARR; TIME= 1989.2.0; PERIOD= 1.8723
        (ATOMIC-NU= 21; ATOMIC-WE= 44.96)
        63.0 DEG/1334-1334 KM

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DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM² DAY/MEV/N)

[illegible]

TABLE 298

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: 11
 MODEL= BARR: TIME= 1989-2-0: PERIOD= 1-9723
 (ATOMIC-NUM= 22: ATOMIC-W= 97.90)
 63.0 DE641334-1334

 MAGNETOSPHERICALLY
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/C/CM²/DAY*NEV/N)

 SHIELD THICKNESS (G/CM²)-----

[illegible]

TABLE 30 A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: T1
 MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
 (ATOMIC-NU= 22; ATOMIC-W= 47.50)
 63.0 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

[illegible]

TABLE 30 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: V
MODEL: BARR; TIME: 1989.2.0; PERIOD: 1-8723
(ATOMIC-NUCLEI: 23; ATOMIC-WE: 50.95)
63.0 0661334-1334

MAGNETOSPHERICALLY

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM*2*DAY*MEV/N)

SHIELD THICKNESS (G/CM*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.20	0.50	1.0	3.0	5.0	10.0
12	1.20E-05	1.06E-06	0.20	0.00E+00	0.00E+00	5.70E-07	3.03E-07	1.76E-07	2.45E-07	2.45E-07	2.45E-07	2.45E-07	2.45E-07	2.45E-07
14	1.00E-05	8.80E-07	0.25	0.00E+00	0.00E+00	5.05E-07	2.68E-07	1.55E-07	2.12E-07	2.12E-07	2.12E-07	2.12E-07	2.12E-07	2.12E-07
16	7.9E-06	6.80E-07	0.29	0.00E+00	0.00E+00	4.55E-07	2.40E-07	1.40E-07	1.93E-07	1.93E-07	1.93E-07	1.93E-07	1.93E-07	1.93E-07
18	6.79E-06	5.61E-07	0.32	0.00E+00	0.00E+00	4.25E-07	2.25E-07	1.35E-07	1.81E-07	1.81E-07	1.81E-07	1.81E-07	1.81E-07	1.81E-07
20	6.03E-06	4.81E-07	0.36	0.00E+00	0.00E+00	4.05E-07	2.10E-07	1.25E-07	1.73E-07	1.73E-07	1.73E-07	1.73E-07	1.73E-07	1.73E-07
22	5.40E-06	4.20E-07	0.41	0.00E+00	0.00E+00	3.85E-07	1.95E-07	1.15E-07	1.64E-07	1.64E-07	1.64E-07	1.64E-07	1.64E-07	1.64E-07
24	4.89E-06	3.70E-07	0.45	0.00E+00	0.00E+00	3.65E-07	1.80E-07	1.05E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07
26	4.48E-06	3.29E-07	0.49	0.00E+00	0.00E+00	3.45E-07	1.65E-07	9.50E-08	1.43E-07	1.43E-07	1.43E-07	1.43E-07	1.43E-07	1.43E-07
28	4.07E-06	2.88E-07	0.53	0.00E+00	0.00E+00	3.25E-07	1.50E-07	8.50E-08	1.32E-07	1.32E-07	1.32E-07	1.32E-07	1.32E-07	1.32E-07
30	3.66E-06	2.47E-07	0.57	0.00E+00	0.00E+00	3.05E-07	1.35E-07	7.50E-08	1.21E-07	1.21E-07	1.21E-07	1.21E-07	1.21E-07	1.21E-07
32	3.25E-06	2.06E-07	0.61	0.00E+00	0.00E+00	2.85E-07	1.20E-07	6.50E-08	1.10E-07	1.10E-07	1.10E-07	1.10E-07	1.10E-07	1.10E-07
34	2.84E-06	1.65E-07	0.65	0.00E+00	0.00E+00	2.65E-07	1.05E-07	5.50E-08	9.90E-08	9.90E-08	9.90E-08	9.90E-08	9.90E-08	9.90E-08
36	2.43E-06	1.24E-07	0.69	0.00E+00	0.00E+00	2.45E-07	9.50E-08	4.50E-08	8.80E-08	8.80E-08	8.80E-08	8.80E-08	8.80E-08	8.80E-08
38	2.02E-06	8.30E-08	0.73	0.00E+00	0.00E+00	2.25E-07	8.50E-08	3.50E-08	8.20E-08	8.20E-08	8.20E-08	8.20E-08	8.20E-08	8.20E-08
40	1.61E-06	4.15E-08	0.77	0.00E+00	0.00E+00	2.05E-07	7.50E-08	2.50E-08	7.50E-08	7.50E-08	7.50E-08	7.50E-08	7.50E-08	7.50E-08
42	1.20E-06	2.00E-08	0.81	0.00E+00	0.00E+00	1.85E-07	6.50E-08	1.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08
44	8.80E-07	9.80E-09	0.85	0.00E+00	0.00E+00	1.65E-07	5.50E-08	1.00E-08	5.50E-08	5.50E-08	5.50E-08	5.50E-08	5.50E-08	5.50E-08
46	4.89E-06	5.79E-07	0.89	0.00E+00	0.00E+00	1.45E-07	4.50E-08	8.00E-09	4.50E-08	4.50E-08	4.50E-08	4.50E-08	4.50E-08	4.50E-08
48	4.08E-06	4.81E-07	0.93	0.00E+00	0.00E+00	1.25E-07	3.50E-08	6.00E-09	3.50E-08	3.50E-08	3.50E-08	3.50E-08	3.50E-08	3.50E-08
50	3.27E-06	3.83E-07	0.97	0.00E+00	0.00E+00	1.05E-07	2.50E-08	4.00E-09	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08
52	2.46E-06	2.84E-07	1.01	0.00E+00	0.00E+00	8.50E-08	1.50E-08	3.00E-09	1.50E-08	1.50E-08	1.50E-08	1.50E-08	1.50E-08	1.50E-08
54	1.65E-06	1.85E-07	1.05	0.00E+00	0.00E+00	6.50E-08	1.00E-08	2.00E-09	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
56	1.24E-06	1.34E-07	1.09	0.00E+00	0.00E+00	4.50E-08	7.00E-09	1.00E-09	7.00E-09	7.00E-09	7.00E-09	7.00E-09	7.00E-09	7.00E-09
58	8.30E-07	8.30E-08	1.13	0.00E+00	0.00E+00	2.50E-08	4.00E-09	5.00E-10	4.00E-09	4.00E-09	4.00E-09	4.00E-09	4.00E-09	4.00E-09
60	5.79E-07	5.79E-08	1.17	0.00E+00	0.00E+00	1.50E-08	2.00E-09	2.00E-10	2.00E-09	2.00E-09	2.00E-09	2.00E-09	2.00E-09	2.00E-09
62	4.08E-07	4.08E-08	1.21	0.00E+00	0.00E+00	1.00E-08	1.00E-09	1.00E-10	1.00E-09	1.00E-09	1.00E-09	1.00E-09	1.00E-09	1.00E-09
64	2.47E-07	2.47E-08	1.25	0.00E+00	0.00E+00	6.00E-09	5.00E-10	5.00E-11	5.00E-10	5.00E-10	5.00E-10	5.00E-10	5.00E-10	5.00E-10
66	1.66E-07	1.66E-08	1.29	0.00E+00	0.00E+00	4.00E-09	3.00E-10	3.00E-11	3.00E-10	3.00E-10	3.00E-10	3.00E-10	3.00E-10	3.00E-10
68	1.05E-07	1.05E-08	1.33	0.00E+00	0.00E+00	2.00E-09	1.00E-10	1.00E-11	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10
70	5.79E-08	5.79E-09	1.37	0.00E+00	0.00E+00	1.00E-09	5.00E-11	5.00E-12	5.00E-11	5.00E-11	5.00E-11	5.00E-11	5.00E-11	5.00E-11
72	3.27E-08	3.27E-09	1.41	0.00E+00	0.00E+00	6.00E-10	3.00E-11	3.00E-12	3.00E-11	3.00E-11	3.00E-11	3.00E-11	3.00E-11	3.00E-11
74	1.66E-08	1.66E-09	1.45	0.00E+00	0.00E+00	4.00E-10	2.00E-11	2.00E-12	2.00E-11	2.00E-11	2.00E-11	2.00E-11	2.00E-11	2.00E-11
76	8.30E-09	8.30E-10	1.49	0.00E+00	0.00E+00	2.00E-10	1.00E-11	1.00E-12	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11
78	4.08E-09	4.08E-10	1.53	0.00E+00	0.00E+00	1.00E-10	5.00E-12	5.00E-13	5.00E-12	5.00E-12	5.00E-12	5.00E-12	5.00E-12	5.00E-12
80	2.47E-09	2.47E-10	1.57	0.00E+00	0.00E+00	6.00E-11	3.00E-12	3.00E-13	3.00E-12	3.00E-12	3.00E-12	3.00E-12	3.00E-12	3.00E-12
82	1.66E-09	1.66E-10	1.61	0.00E+00	0.00E+00	4.00E-11	2.00E-12	2.00E-13	2.00E-12	2.00E-12	2.00E-12	2.00E-12	2.00E-12	2.00E-12
84	8.30E-10	8.30E-11	1.65	0.00E+00	0.00E+00	2.00E-11	1.00E-12	1.00E-13	1.00E-12	1.00E-12	1.00E-12	1.00E-12	1.00E-12	1.00E-12
86	4.08E-10	4.08E-11	1.69	0.00E+00	0.00E+00	1.00E-11	5.00E-13	5.00E-14	5.00E-13	5.00E-13	5.00E-13	5.00E-13	5.00E-13	5.00E-13
88	2.47E-10	2.47E-11	1.73	0.00E+00	0.00E+00	6.00E-12	3.00E-13	3.00E-14	3.00E-13	3.00E-13	3.00E-13	3.00E-13	3.00E-13	3.00E-13
90	1.66E-10	1.66E-11	1.77	0.00E+00	0.00E+00	4.00E-12	2.00E-13	2.00E-14	2.00E-13	2.00E-13	2.00E-13	2.00E-13	2.00E-13	2.00E-13
92	8.30E-11	8.30E-12	1.81	0.00E+00	0.00E+00	2.00E-12	1.00E-13	1.00E-14	1.00E-13	1.00E-13	1.00E-13	1.00E-13	1.00E-13	1.00E-13
94	4.08E-11	4.08E-12	1.85	0.00E+00	0.00E+00	1.00E-12	5.00E-14	5.00E-15	5.00E-14	5.00E-14	5.00E-14	5.00E-14	5.00E-14	5.00E-14
96	2.47E-11	2.47E-12	1.89	0.00E+00	0.00E+00	6.00E-13	3.00E-14	3.00E-15	3.00E-14	3.00E-14	3.00E-14	3.00E-14	3.00E-14	3.00E-14
98	1.66E-11	1.66E-12	1.93	0.00E+00	0.00E+00	4.00E-13	2.00E-14	2.00E-15	2.00E-14	2.00E-14	2.00E-14	2.00E-14	2.00E-14	2.00E-14
100	8.30E-12	8.30E-13	1.97	0.00E+00	0.00E+00	2.00E-13	1.00E-14	1.00E-15	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14

TABLE 31 A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: V
MODEL= HARRI TIME= 1989.2.0 PERIOD= 1.8723
(ATOMIC-NUM= 23; ATOMIC-W= 50.95)
63.0 DEG/133+-1334 NM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
3.0E-07	6.14E-07	6.14E-07	6.14E-07	6.14E-07	5.81E-07	5.81E-07	6.03E-07	6.03E-07	8.44E-07	9.08E-07	8.66E-07
3.5E-07	6.55E-07	6.55E-07	6.55E-07	6.55E-07	6.35E-07	6.35E-07	6.58E-07	6.58E-07	9.15E-07	9.80E-07	9.33E-07
4.0E-07	6.96E-07	6.96E-07	6.96E-07	6.96E-07	6.76E-07	6.76E-07	6.99E-07	6.99E-07	9.56E-07	1.02E-06	9.73E-07
4.5E-07	7.37E-07	7.37E-07	7.37E-07	7.37E-07	7.17E-07	7.17E-07	7.40E-07	7.40E-07	9.97E-07	1.06E-06	1.03E-06
5.0E-07	7.78E-07	7.78E-07	7.78E-07	7.78E-07	7.58E-07	7.58E-07	7.81E-07	7.81E-07	1.03E-06	1.10E-06	1.07E-06
5.5E-07	8.19E-07	8.19E-07	8.19E-07	8.19E-07	7.99E-07	7.99E-07	8.22E-07	8.22E-07	1.07E-06	1.14E-06	1.11E-06
6.0E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.40E-07	8.40E-07	8.63E-07	8.63E-07	1.11E-06	1.18E-06	1.15E-06
6.5E-07	9.01E-07	9.01E-07	9.01E-07	9.01E-07	8.81E-07	8.81E-07	9.04E-07	9.04E-07	1.15E-06	1.22E-06	1.19E-06
7.0E-07	9.42E-07	9.42E-07	9.42E-07	9.42E-07	9.22E-07	9.22E-07	9.45E-07	9.45E-07	1.19E-06	1.26E-06	1.23E-06
7.5E-07	9.83E-07	9.83E-07	9.83E-07	9.83E-07	9.63E-07	9.63E-07	9.86E-07	9.86E-07	1.23E-06	1.30E-06	1.27E-06
8.0E-07	1.024E-06	1.024E-06	1.024E-06	1.024E-06	1.004E-06	1.004E-06	1.027E-06	1.027E-06	1.27E-06	1.34E-06	1.31E-06
8.5E-07	1.065E-06	1.065E-06	1.065E-06	1.065E-06	1.045E-06	1.045E-06	1.068E-06	1.068E-06	1.31E-06	1.38E-06	1.35E-06
9.0E-07	1.106E-06	1.106E-06	1.106E-06	1.106E-06	1.086E-06	1.086E-06	1.109E-06	1.109E-06	1.35E-06	1.42E-06	1.39E-06
9.5E-07	1.147E-06	1.147E-06	1.147E-06	1.147E-06	1.127E-06	1.127E-06	1.150E-06	1.150E-06	1.39E-06	1.46E-06	1.43E-06
1.0E-06	1.188E-06	1.188E-06	1.188E-06	1.188E-06	1.168E-06	1.168E-06	1.191E-06	1.191E-06	1.43E-06	1.50E-06	1.47E-06
1.05E-06	1.229E-06	1.229E-06	1.229E-06	1.229E-06	1.209E-06	1.209E-06	1.232E-06	1.232E-06	1.47E-06	1.54E-06	1.51E-06
1.1E-06	1.270E-06	1.270E-06	1.270E-06	1.270E-06	1.250E-06	1.250E-06	1.273E-06	1.273E-06	1.51E-06	1.58E-06	1.55E-06
1.15E-06	1.311E-06	1.311E-06	1.311E-06	1.311E-06	1.291E-06	1.291E-06	1.314E-06	1.314E-06	1.55E-06	1.62E-06	1.59E-06
1.2E-06	1.352E-06	1.352E-06	1.352E-06	1.352E-06	1.332E-06	1.332E-06	1.355E-06	1.355E-06	1.59E-06	1.66E-06	1.63E-06
1.25E-06	1.393E-06	1.393E-06	1.393E-06	1.393E-06	1.373E-06	1.373E-06	1.396E-06	1.396E-06	1.63E-06	1.70E-06	1.67E-06
1.3E-06	1.434E-06	1.434E-06	1.434E-06	1.434E-06	1.414E-06	1.414E-06	1.437E-06	1.437E-06	1.67E-06	1.74E-06	1.71E-06
1.35E-06	1.475E-06	1.475E-06	1.475E-06	1.475E-06	1.455E-06	1.455E-06	1.478E-06	1.478E-06	1.71E-06	1.78E-06	1.75E-06
1.4E-06	1.516E-06	1.516E-06	1.516E-06	1.516E-06	1.496E-06	1.496E-06	1.519E-06	1.519E-06	1.75E-06	1.82E-06	1.79E-06
1.45E-06	1.557E-06	1.557E-06	1.557E-06	1.557E-06	1.537E-06	1.537E-06	1.560E-06	1.560E-06	1.79E-06	1.86E-06	1.83E-06
1.5E-06	1.598E-06	1.598E-06	1.598E-06	1.598E-06	1.578E-06	1.578E-06	1.601E-06	1.601E-06	1.83E-06	1.90E-06	1.87E-06
1.55E-06	1.639E-06	1.639E-06	1.639E-06	1.639E-06	1.619E-06	1.619E-06	1.642E-06	1.642E-06	1.87E-06	1.94E-06	1.91E-06
1.6E-06	1.680E-06	1.680E-06	1.680E-06	1.680E-06	1.660E-06	1.660E-06	1.683E-06	1.683E-06	1.91E-06	1.98E-06	1.95E-06
1.65E-06	1.721E-06	1.721E-06	1.721E-06	1.721E-06	1.701E-06	1.701E-06	1.724E-06	1.724E-06	1.95E-06	2.02E-06	1.99E-06
1.7E-06	1.762E-06	1.762E-06	1.762E-06	1.762E-06	1.742E-06	1.742E-06	1.765E-06	1.765E-06	1.99E-06	2.06E-06	2.03E-06
1.75E-06	1.803E-06	1.803E-06	1.803E-06	1.803E-06	1.783E-06	1.783E-06	1.806E-06	1.806E-06	2.03E-06	2.10E-06	2.07E-06
1.8E-06	1.844E-06	1.844E-06	1.844E-06	1.844E-06	1.824E-06	1.824E-06	1.847E-06	1.847E-06	2.07E-06	2.14E-06	2.11E-06
1.85E-06	1.885E-06	1.885E-06	1.885E-06	1.885E-06	1.865E-06	1.865E-06	1.888E-06	1.888E-06	2.11E-06	2.18E-06	2.15E-06
1.9E-06	1.926E-06	1.926E-06	1.926E-06	1.926E-06	1.906E-06	1.906E-06	1.929E-06	1.929E-06	2.15E-06	2.22E-06	2.19E-06
1.95E-06	1.967E-06	1.967E-06	1.967E-06	1.967E-06	1.947E-06	1.947E-06	1.970E-06	1.970E-06	2.19E-06	2.26E-06	2.23E-06
2.0E-06	2.008E-06	2.008E-06	2.008E-06	2.008E-06	1.988E-06	1.988E-06	2.011E-06	2.011E-06	2.23E-06	2.30E-06	2.27E-06
2.05E-06	2.049E-06	2.049E-06	2.049E-06	2.049E-06	2.029E-06	2.029E-06	2.052E-06	2.052E-06	2.27E-06	2.34E-06	2.31E-06
2.1E-06	2.090E-06	2.090E-06	2.090E-06	2.090E-06	2.070E-06	2.070E-06	2.093E-06	2.093E-06	2.31E-06	2.38E-06	2.35E-06
2.15E-06	2.131E-06	2.131E-06	2.131E-06	2.131E-06	2.111E-06	2.111E-06	2.134E-06	2.134E-06	2.35E-06	2.42E-06	2.39E-06
2.2E-06	2.172E-06	2.172E-06	2.172E-06	2.172E-06	2.152E-06	2.152E-06	2.175E-06	2.175E-06	2.39E-06	2.46E-06	2.43E-06
2.25E-06	2.213E-06	2.213E-06	2.213E-06	2.213E-06	2.193E-06	2.193E-06	2.216E-06	2.216E-06	2.43E-06	2.50E-06	2.47E-06
2.3E-06	2.254E-06	2.254E-06	2.254E-06	2.254E-06	2.234E-06	2.234E-06	2.257E-06	2.257E-06	2.47E-06	2.54E-06	2.51E-06
2.35E-06	2.295E-06	2.295E-06	2.295E-06	2.295E-06	2.275E-06	2.275E-06	2.298E-06	2.298E-06	2.51E-06	2.58E-06	2.55E-06
2.4E-06	2.336E-06	2.336E-06	2.336E-06	2.336E-06	2.316E-06	2.316E-06	2.339E-06	2.339E-06	2.55E-06	2.62E-06	2.59E-06
2.45E-06	2.377E-06	2.377E-06	2.377E-06	2.377E-06	2.357E-06	2.357E-06	2.380E-06	2.380E-06	2.59E-06	2.66E-06	2.63E-06
2.5E-06	2.418E-06	2.418E-06	2.418E-06	2.418E-06	2.398E-06	2.398E-06	2.421E-06	2.421E-06	2.63E-06	2.70E-06	2.67E-06
2.55E-06	2.459E-06	2.459E-06	2.459E-06	2.459E-06	2.439E-06	2.439E-06	2.462E-06	2.462E-06	2.67E-06	2.74E-06	2.71E-06
2.6E-06	2.500E-06	2.500E-06	2.500E-06	2.500E-06	2.480E-06	2.480E-06	2.503E-06	2.503E-06	2.71E-06	2.78E-06	2.75E-06
2.65E-06	2.541E-06	2.541E-06	2.541E-06	2.541E-06	2.521E-06	2.521E-06	2.544E-06	2.544E-06	2.75E-06	2.82E-06	2.79E-06
2.7E-06	2.582E-06	2.582E-06	2.582E-06	2.582E-06	2.562E-06	2.562E-06	2.585E-06	2.585E-06	2.79E-06	2.86E-06	2.83E-06
2.75E-06	2.623E-06	2.623E-06	2.623E-06	2.623E-06	2.603E-06	2.603E-06	2.626E-06	2.626E-06	2.83E-06	2.90E-06	2.87E-06
2.8E-06	2.664E-06	2.664E-06	2.664E-06	2.664E-06	2.644E-06	2.644E-06	2.667E-06	2.667E-06	2.87E-06	2.94E-06	2.91E-06
2.85E-06	2.705E-06	2.705E-06	2.705E-06	2.705E-06	2.685E-06	2.685E-06	2.708E-06	2.708E-06	2.91E-06	2.98E-06	2.95E-06
2.9E-06	2.746E-06	2.746E-06	2.746E-06	2.746E-06	2.726E-06	2.726E-06	2.749E-06	2.749E-06	2.95E-06	3.02E-06	2.99E-06
2.95E-06	2.787E-06	2.787E-06	2.787E-06	2.787E-06	2.767E-06	2.767E-06	2.790E-06	2.790E-06	2.99E-06	3.06E-06	3.03E-06
3.0E-06	2.828E-06	2.828E-06	2.828E-06	2.828E-06	2.808E-06	2.808E-06	2.831E-06	2.831E-06	3.03E-06	3.10E-06	3.07E-06
3.05E-06	2.869E-06	2.869E-06	2.869E-06	2.869E-06	2.849E-06	2.849E-06	2.872E-06	2.872E-06	3.07E-06	3.14E-06	3.11E-06
3.1E-06	2.910E-06	2.910E-06	2.910E-06	2.910E-06	2.890E-06	2.890E-06	2.913E-06	2.913E-06	3.11E-06	3.18E-06	3.15E-06
3.15E-06	2.951E-06	2.951E-06	2.951E-06	2.951E-06	2.931E-06	2.931E-06	2.954E-06	2.954E-06	3.15E-06	3.22E-06	3.19E-06
3.2E-06	2.992E-06	2.992E-06	2.992E-06	2.992E-06	2.972E-06	2.972E-06	2.995E-06	2.995E-06	3.19E-06	3.26E-06	3.23E-06
3.25E-06	3.033E-06	3.033E-06	3.033E-06	3.033E-06	3.013E-06	3.013E-06	3.036E-06	3.036E-06	3.23E-06	3.30E-06	3.27E-06
3.3E-06	3.074E-06	3.074E-06	3.074E-06	3.074E-06	3.054E-06	3.054E-06	3.077E-06	3.077E-06	3.27E-06	3.34E-06	3.31E-06
3.35E-06	3.115E-06	3.115E-06	3.115E-06	3.115E-06	3.095E-06	3.095E-06	3.118E-06	3.118E-06	3.31E-06	3.38E-06	3.35E-06
3.4E-06	3.156E-06	3.156E-06	3.156E-06	3.156E-06	3.136E-06	3.136E-06	3.159E-06	3.159E-06	3.35E-06	3.42E-06	3.39E-06
3.45E-06	3.197E-06	3.197E-06	3.197E-06	3.197E-06	3.177E-06	3.177E-06	3.200E-06	3.200E-06	3.39E-06	3.46E-06	3.43E-06
3.5E-06	3.238E-06	3.238E-06	3.238E-06	3.238E-06	3.218E-06	3.218E-06	3.241E-06	3.241E-06	3.43E-06	3.50E-06	3.47E-06
3.55E-06	3.279E-06	3.279E-06	3.279E-06	3.279E-06	3.259E-06	3.259E-06	3.282E-06	3.282E-06	3.47E-06	3.54E-06	3.51E-06
3.6E-06	3.320E-06	3.320E-06	3.320E-06	3.320E-06	3.300E-06	3.300E-06	3.323E-06	3.323E-06	3.51E-06	3.58E-06	3.55E-06
3.65E-06	3.361E-06	3.361E-06	3.361E-06	3.361E-06	3.341E-06	3.341E-06	3.364E-06	3.364E-06	3.55E-06	3.62E-06	3.59E-06
3.7E-06	3.402E-06	3.402E-06	3.402E-06	3.402E-06	3.382E-06	3.382E-06	3.405E-06	3.405E-06	3.59E-06	3.66E-06	3.63E-06
3.75E-06	3.443E-06	3.443E-06	3.443E-06	3.443E-06	3.423E-06	3.423E-06	3.446E-06	3.446E-06	3.63E-06	3.70E-06	3.67E-06
3.8E-06	3.484E-06	3.484E-06	3.484E-06	3.484E-06	3.464E-06	3.464E-06	3.487E-06	3.487E-06	3.67E-06	3.74E-06	3.71E-06
3.85E-06	3.525E-06	3.525E-06	3.525E-06	3.525E-06	3.						

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CR
MODEL= PARR; TIME= 1989.2.0; PERIOD= 1.9723
(ATOMIC-NUM= 24; ATOMIC-W= 52.01)
63.9 DE6/1334-1334 RM

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (G/CM**2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	2.47E-05	2.01E-06	0.20	0.00E+00	0.00E+00	1.11E-06	7.91E-07	6.47E-07	4.35E-07	4.52E-07	4.75E-07	6.37E-07	6.96E-07	6.61E-07
14	2.02E-05	1.52E-06	0.23	0.00E+00	0.00E+00	9.05E-06	7.49E-07	6.10E-07	4.10E-07	4.27E-07	4.48E-07	6.01E-07	6.56E-07	6.24E-07
16	1.65E-05	1.24E-06	0.26	0.00E+00	0.00E+00	8.29E-07	6.92E-07	5.73E-07	3.82E-07	3.97E-07	4.15E-07	5.67E-07	6.21E-07	5.90E-07
18	1.37E-05	1.03E-06	0.29	0.00E+00	0.00E+00	7.61E-07	6.35E-07	5.31E-07	3.51E-07	3.64E-07	3.82E-07	5.33E-07	5.86E-07	5.55E-07
20	1.26E-05	9.48E-07	0.32	0.00E+00	0.00E+00	7.04E-07	5.86E-07	5.14E-07	3.46E-07	3.56E-07	3.74E-07	5.24E-07	5.76E-07	5.46E-07
22	1.17E-05	8.79E-07	0.36	0.00E+00	0.00E+00	6.56E-07	5.46E-07	4.87E-07	3.27E-07	3.34E-07	3.52E-07	4.80E-07	5.24E-07	4.98E-07
24	1.09E-05	8.19E-07	0.41	0.00E+00	0.00E+00	6.16E-07	5.14E-07	4.57E-07	3.08E-07	3.12E-07	3.29E-07	4.51E-07	4.93E-07	4.68E-07
26	1.03E-05	7.67E-07	0.46	0.00E+00	0.00E+00	5.82E-07	4.86E-07	4.36E-07	2.88E-07	2.90E-07	3.06E-07	4.40E-07	4.80E-07	4.56E-07
28	9.80E-06	7.22E-07	0.52	0.00E+00	0.00E+00	5.52E-07	4.59E-07	4.10E-07	2.74E-07	2.74E-07	2.90E-07	4.24E-07	4.62E-07	4.40E-07
30	9.30E-06	6.83E-07	0.57	0.00E+00	0.00E+00	5.25E-07	4.34E-07	3.86E-07	2.61E-07	2.61E-07	2.76E-07	4.07E-07	4.44E-07	4.22E-07
32	8.85E-06	6.49E-07	0.62	0.00E+00	0.00E+00	5.00E-07	4.11E-07	3.64E-07	2.49E-07	2.49E-07	2.64E-07	3.92E-07	4.29E-07	4.07E-07
34	8.45E-06	6.19E-07	0.67	0.00E+00	0.00E+00	4.76E-07	3.90E-07	3.44E-07	2.38E-07	2.38E-07	2.53E-07	3.80E-07	4.16E-07	3.94E-07
36	8.09E-06	5.92E-07	0.73	0.00E+00	0.00E+00	4.54E-07	3.69E-07	3.24E-07	2.28E-07	2.28E-07	2.43E-07	3.69E-07	4.04E-07	3.82E-07
38	7.76E-06	5.67E-07	0.75	0.00E+00	0.00E+00	4.34E-07	3.49E-07	3.04E-07	2.18E-07	2.18E-07	2.33E-07	3.58E-07	3.93E-07	3.70E-07
40	7.45E-06	5.44E-07	0.85	0.00E+00	0.00E+00	4.15E-07	3.30E-07	2.85E-07	2.08E-07	2.08E-07	2.23E-07	3.47E-07	3.82E-07	3.59E-07
42	7.16E-06	5.22E-07	0.85	0.00E+00	0.00E+00	3.97E-07	3.12E-07	2.67E-07	1.98E-07	1.98E-07	2.13E-07	3.36E-07	3.71E-07	3.48E-07
44	6.89E-06	5.01E-07	0.95	0.00E+00	0.00E+00	3.80E-07	2.95E-07	2.50E-07	1.89E-07	1.89E-07	2.04E-07	3.25E-07	3.60E-07	3.37E-07
46	6.64E-06	4.81E-07	1.08	0.00E+00	0.00E+00	3.64E-07	2.79E-07	2.34E-07	1.80E-07	1.80E-07	1.95E-07	3.14E-07	3.49E-07	3.26E-07
48	6.40E-06	4.62E-07	1.21	0.00E+00	0.00E+00	3.49E-07	2.64E-07	2.19E-07	1.70E-07	1.70E-07	1.85E-07	3.03E-07	3.38E-07	3.15E-07
50	6.17E-06	4.44E-07	1.37	0.00E+00	0.00E+00	3.35E-07	2.50E-07	2.05E-07	1.60E-07	1.60E-07	1.75E-07	2.92E-07	3.27E-07	3.04E-07
52	5.95E-06	4.27E-07	1.57	0.00E+00	0.00E+00	3.22E-07	2.37E-07	1.92E-07	1.50E-07	1.50E-07	1.65E-07	2.81E-07	3.16E-07	2.92E-07
54	5.74E-06	4.11E-07	1.74	0.00E+00	0.00E+00	3.10E-07	2.25E-07	1.80E-07	1.40E-07	1.40E-07	1.55E-07	2.70E-07	3.05E-07	2.80E-07
56	5.54E-06	3.96E-07	1.94	0.00E+00	0.00E+00	2.99E-07	2.14E-07	1.70E-07	1.30E-07	1.30E-07	1.45E-07	2.59E-07	2.94E-07	2.68E-07
58	5.35E-06	3.82E-07	2.21	0.00E+00	0.00E+00	2.89E-07	2.04E-07	1.60E-07	1.20E-07	1.20E-07	1.35E-07	2.48E-07	2.83E-07	2.57E-07
60	5.17E-06	3.69E-07	2.50	0.00E+00	0.00E+00	2.80E-07	1.94E-07	1.50E-07	1.10E-07	1.10E-07	1.25E-07	2.37E-07	2.72E-07	2.46E-07
62	5.00E-06	3.57E-07	2.81	0.00E+00	0.00E+00	2.71E-07	1.85E-07	1.40E-07	1.00E-07	1.00E-07	1.15E-07	2.26E-07	2.61E-07	2.35E-07
64	4.84E-06	3.45E-07	3.11	0.00E+00	0.00E+00	2.63E-07	1.77E-07	1.30E-07	9.00E-08	9.00E-08	1.05E-07	2.15E-07	2.50E-07	2.24E-07
66	4.69E-06	3.34E-07	3.41	0.00E+00	0.00E+00	2.55E-07	1.69E-07	1.20E-07	8.00E-08	8.00E-08	9.50E-08	2.04E-07	2.39E-07	2.13E-07
68	4.54E-06	3.24E-07	3.71	0.00E+00	0.00E+00	2.48E-07	1.62E-07	1.10E-07	7.00E-08	7.00E-08	8.50E-08	1.93E-07	2.28E-07	2.02E-07
70	4.40E-06	3.14E-07	4.04	0.00E+00	0.00E+00	2.41E-07	1.55E-07	1.00E-07	6.00E-08	6.00E-08	7.50E-08	1.82E-07	2.17E-07	1.91E-07
72	4.27E-06	3.04E-07	4.55	0.00E+00	0.00E+00	2.34E-07	1.48E-07	9.00E-08	5.00E-08	5.00E-08	6.50E-08	1.71E-07	2.06E-07	1.80E-07
74	4.14E-06	2.95E-07	5.13	0.00E+00	0.00E+00	2.28E-07	1.42E-07	8.00E-08	4.00E-08	4.00E-08	5.50E-08	1.60E-07	1.95E-07	1.69E-07
76	4.02E-06	2.86E-07	5.73	0.00E+00	0.00E+00	2.22E-07	1.36E-07	7.00E-08	3.00E-08	3.00E-08	4.50E-08	1.50E-07	1.84E-07	1.58E-07
78	3.91E-06	2.77E-07	6.53	0.00E+00	0.00E+00	2.17E-07	1.30E-07	6.00E-08	2.00E-08	2.00E-08	3.50E-08	1.40E-07	1.73E-07	1.47E-07
80	3.80E-06	2.69E-07	7.45	0.00E+00	0.00E+00	2.12E-07	1.25E-07	5.00E-08	1.00E-08	1.00E-08	2.50E-08	1.30E-07	1.62E-07	1.36E-07
82	3.70E-06	2.61E-07	8.50	0.00E+00	0.00E+00	2.07E-07	1.20E-07	4.00E-08	0.00E-08	0.00E-08	1.50E-08	1.20E-07	1.51E-07	1.25E-07
84	3.60E-06	2.54E-07	9.74	0.00E+00	0.00E+00	2.02E-07	1.15E-07	3.00E-08	0.00E-08	0.00E-08	1.00E-08	1.10E-07	1.40E-07	1.14E-07
86	3.51E-06	2.47E-07	1.10	0.00E+00	0.00E+00	1.97E-07	1.10E-07	2.00E-08	0.00E-08	0.00E-08	0.00E-08	1.00E-07	1.30E-07	1.04E-07
88	3.42E-06	2.40E-07	1.23	0.00E+00	0.00E+00	1.92E-07	1.05E-07	1.00E-08	0.00E-08	0.00E-08	0.00E-08	9.00E-08	1.20E-07	9.40E-08
90	3.34E-06	2.34E-07	1.37	0.00E+00	0.00E+00	1.87E-07	1.00E-07	9.00E-08	0.00E-08	0.00E-08	0.00E-08	8.00E-08	1.10E-07	8.30E-08
92	3.26E-06	2.28E-07	1.50	0.00E+00	0.00E+00	1.82E-07	9.50E-08	8.00E-08	0.00E-08	0.00E-08	0.00E-08	7.00E-08	1.00E-07	7.20E-08
94	3.18E-06	2.22E-07	1.64	0.00E+00	0.00E+00	1.77E-07	9.00E-08	7.00E-08	0.00E-08	0.00E-08	0.00E-08	6.00E-08	9.00E-08	6.20E-08
96	3.11E-06	2.16E-07	1.79	0.00E+00	0.00E+00	1.72E-07	8.50E-08	6.00E-08	0.00E-08	0.00E-08	0.00E-08	5.00E-08	8.00E-08	5.20E-08
98	3.04E-06	2.10E-07	1.94	0.00E+00	0.00E+00	1.67E-07	8.00E-08	5.00E-08	0.00E-08	0.00E-08	0.00E-08	4.00E-08	7.00E-08	4.20E-08
100	2.97E-06	2.05E-07	2.21	0.00E+00	0.00E+00	1.62E-07	7.50E-08	4.00E-08	0.00E-08	0.00E-08	0.00E-08	3.00E-08	6.00E-08	3.40E-08
102	2.91E-06	2.00E-07	2.50	0.00E+00	0.00E+00	1.57E-07	7.00E-08	3.00E-08	0.00E-08	0.00E-08	0.00E-08	2.00E-08	5.00E-08	2.40E-08
104	2.85E-06	1.95E-07	2.81	0.00E+00	0.00E+00	1.52E-07	6.50E-08	2.00E-08	0.00E-08	0.00E-08	0.00E-08	1.00E-08	4.00E-08	1.40E-08
106	2.79E-06	1.90E-07	3.11	0.00E+00	0.00E+00	1.47E-07	6.00E-08	1.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	3.00E-08	0.90E-08
108	2.74E-06	1.85E-07	3.41	0.00E+00	0.00E+00	1.42E-07	5.50E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	2.00E-08	0.40E-08
110	2.69E-06	1.80E-07	3.71	0.00E+00	0.00E+00	1.37E-07	5.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	1.00E-08	0.00E-08
112	2.64E-06	1.75E-07	4.04	0.00E+00	0.00E+00	1.32E-07	4.50E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
114	2.59E-06	1.70E-07	4.55	0.00E+00	0.00E+00	1.27E-07	4.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
116	2.54E-06	1.65E-07	5.13	0.00E+00	0.00E+00	1.22E-07	3.50E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
118	2.49E-06	1.60E-07	5.73	0.00E+00	0.00E+00	1.17E-07	3.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
120	2.44E-06	1.55E-07	6.53	0.00E+00	0.00E+00	1.12E-07	2.50E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
122	2.39E-06	1.50E-07	7.45	0.00E+00	0.00E+00	1.07E-07	2.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
124	2.34E-06	1.45E-07	8.50	0.00E+00	0.00E+00	1.02E-07	1.50E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
126	2.29E-06	1.40E-07	9.74	0.00E+00	0.00E+00	9.70E-08	1.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
128	2.24E-06	1.35E-07	1.10	0.00E+00	0.00E+00	9.20E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
130	2.19E-06	1.30E-07	1.23	0.00E+00	0.00E+00	8.70E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
132	2.14E-06	1.25E-07	1.37	0.00E+00	0.00E+00	8.20E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
134	2.09E-06	1.20E-07	1.50	0.00E+00	0.00E+00	7.70E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08	0.00E-08
136	2.04E-06	1.15E-07	1.64	0.00E+00	0.00E+00	7.20E-08	0.00E-08	0.00E-08						

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CR
BARR: TIME= 1989.2.0; PERIOD= 1.8723
MODEL= (ATOMIC-NU= 54; ATOMIC-W= 52.01)
63.0 DEG/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
35.02	1.21E-06	1.19E-06	1.18E-06	1.14E-06	1.13E-06	1.17E-06	1.19E-06	1.31E-06	1.09E-06	1.08E-06	1.08E-06
40.08	1.27E-06	1.25E-06	1.24E-06	1.20E-06	1.19E-06	1.22E-06	1.24E-06	1.36E-06	1.14E-06	1.13E-06	1.13E-06
45.08	1.33E-06	1.31E-06	1.30E-06	1.26E-06	1.25E-06	1.28E-06	1.30E-06	1.42E-06	1.20E-06	1.19E-06	1.19E-06
50.08	1.40E-06	1.38E-06	1.37E-06	1.33E-06	1.32E-06	1.35E-06	1.37E-06	1.49E-06	1.27E-06	1.26E-06	1.26E-06
55.08	1.47E-06	1.45E-06	1.44E-06	1.40E-06	1.39E-06	1.42E-06	1.44E-06	1.56E-06	1.34E-06	1.33E-06	1.33E-06
60.07	1.54E-06	1.52E-06	1.51E-06	1.47E-06	1.46E-06	1.49E-06	1.51E-06	1.63E-06	1.41E-06	1.40E-06	1.40E-06
65.07	1.61E-06	1.59E-06	1.58E-06	1.54E-06	1.53E-06	1.56E-06	1.58E-06	1.70E-06	1.48E-06	1.47E-06	1.47E-06
70.06	1.68E-06	1.66E-06	1.65E-06	1.61E-06	1.60E-06	1.63E-06	1.65E-06	1.77E-06	1.55E-06	1.54E-06	1.54E-06
75.06	1.75E-06	1.73E-06	1.72E-06	1.68E-06	1.67E-06	1.70E-06	1.72E-06	1.84E-06	1.62E-06	1.61E-06	1.61E-06
80.05	1.82E-06	1.80E-06	1.79E-06	1.75E-06	1.74E-06	1.77E-06	1.79E-06	1.91E-06	1.69E-06	1.68E-06	1.68E-06
85.05	1.89E-06	1.87E-06	1.86E-06	1.82E-06	1.81E-06	1.84E-06	1.86E-06	1.98E-06	1.76E-06	1.75E-06	1.75E-06
90.04	1.96E-06	1.94E-06	1.93E-06	1.89E-06	1.88E-06	1.91E-06	1.93E-06	2.05E-06	1.83E-06	1.82E-06	1.82E-06
95.04	2.03E-06	2.01E-06	2.00E-06	1.96E-06	1.95E-06	1.98E-06	2.00E-06	2.12E-06	1.90E-06	1.89E-06	1.89E-06
100.03	2.10E-06	2.08E-06	2.07E-06	2.03E-06	2.02E-06	2.05E-06	2.07E-06	2.19E-06	1.97E-06	1.96E-06	1.96E-06
105.03	2.17E-06	2.15E-06	2.14E-06	2.10E-06	2.09E-06	2.12E-06	2.14E-06	2.26E-06	2.04E-06	2.03E-06	2.03E-06
110.02	2.24E-06	2.22E-06	2.21E-06	2.17E-06	2.16E-06	2.19E-06	2.21E-06	2.33E-06	2.11E-06	2.10E-06	2.10E-06
115.02	2.31E-06	2.29E-06	2.28E-06	2.24E-06	2.23E-06	2.26E-06	2.28E-06	2.40E-06	2.18E-06	2.17E-06	2.17E-06
120.01	2.38E-06	2.36E-06	2.35E-06	2.31E-06	2.30E-06	2.33E-06	2.35E-06	2.47E-06	2.25E-06	2.24E-06	2.24E-06
125.01	2.45E-06	2.43E-06	2.42E-06	2.38E-06	2.37E-06	2.40E-06	2.42E-06	2.54E-06	2.32E-06	2.31E-06	2.31E-06
130.00	2.52E-06	2.50E-06	2.49E-06	2.45E-06	2.44E-06	2.47E-06	2.49E-06	2.61E-06	2.39E-06	2.38E-06	2.38E-06
135.00	2.59E-06	2.57E-06	2.56E-06	2.52E-06	2.51E-06	2.54E-06	2.56E-06	2.68E-06	2.46E-06	2.45E-06	2.45E-06
140.00	2.66E-06	2.64E-06	2.63E-06	2.59E-06	2.58E-06	2.61E-06	2.63E-06	2.75E-06	2.53E-06	2.52E-06	2.52E-06
145.00	2.73E-06	2.71E-06	2.70E-06	2.66E-06	2.65E-06	2.68E-06	2.70E-06	2.82E-06	2.60E-06	2.59E-06	2.59E-06
150.00	2.80E-06	2.78E-06	2.77E-06	2.73E-06	2.72E-06	2.75E-06	2.77E-06	2.89E-06	2.67E-06	2.66E-06	2.66E-06
155.00	2.87E-06	2.85E-06	2.84E-06	2.80E-06	2.79E-06	2.82E-06	2.84E-06	2.96E-06	2.74E-06	2.73E-06	2.73E-06
160.00	2.94E-06	2.92E-06	2.91E-06	2.87E-06	2.86E-06	2.89E-06	2.91E-06	3.03E-06	2.81E-06	2.80E-06	2.80E-06
165.00	3.01E-06	2.99E-06	2.98E-06	2.94E-06	2.93E-06	2.96E-06	2.98E-06	3.10E-06	2.88E-06	2.87E-06	2.87E-06
170.00	3.08E-06	3.06E-06	3.05E-06	3.01E-06	3.00E-06	3.03E-06	3.05E-06	3.17E-06	2.95E-06	2.94E-06	2.94E-06
175.00	3.15E-06	3.13E-06	3.12E-06	3.08E-06	3.07E-06	3.10E-06	3.12E-06	3.24E-06	3.02E-06	3.01E-06	3.01E-06
180.00	3.22E-06	3.20E-06	3.19E-06	3.15E-06	3.14E-06	3.17E-06	3.19E-06	3.31E-06	3.09E-06	3.08E-06	3.08E-06
185.00	3.29E-06	3.27E-06	3.26E-06	3.22E-06	3.21E-06	3.24E-06	3.26E-06	3.38E-06	3.16E-06	3.15E-06	3.15E-06
190.00	3.36E-06	3.34E-06	3.33E-06	3.29E-06	3.28E-06	3.31E-06	3.33E-06	3.45E-06	3.23E-06	3.22E-06	3.22E-06
195.00	3.43E-06	3.41E-06	3.40E-06	3.36E-06	3.35E-06	3.38E-06	3.40E-06	3.52E-06	3.30E-06	3.29E-06	3.29E-06
200.00	3.50E-06	3.48E-06	3.47E-06	3.43E-06	3.42E-06	3.45E-06	3.47E-06	3.59E-06	3.37E-06	3.36E-06	3.36E-06
205.00	3.57E-06	3.55E-06	3.54E-06	3.50E-06	3.49E-06	3.52E-06	3.54E-06	3.66E-06	3.44E-06	3.43E-06	3.43E-06
210.00	3.64E-06	3.62E-06	3.61E-06	3.57E-06	3.56E-06	3.59E-06	3.61E-06	3.73E-06	3.51E-06	3.50E-06	3.50E-06
215.00	3.71E-06	3.69E-06	3.68E-06	3.64E-06	3.63E-06	3.66E-06	3.68E-06	3.80E-06	3.58E-06	3.57E-06	3.57E-06
220.00	3.78E-06	3.76E-06	3.75E-06	3.71E-06	3.70E-06	3.73E-06	3.75E-06	3.87E-06	3.65E-06	3.64E-06	3.64E-06
225.00	3.85E-06	3.83E-06	3.82E-06	3.78E-06	3.77E-06	3.80E-06	3.82E-06	3.94E-06	3.72E-06	3.71E-06	3.71E-06
230.00	3.92E-06	3.90E-06	3.89E-06	3.85E-06	3.84E-06	3.87E-06	3.89E-06	4.01E-06	3.79E-06	3.78E-06	3.78E-06
235.00	3.99E-06	3.97E-06	3.96E-06	3.92E-06	3.91E-06	3.94E-06	3.96E-06	4.08E-06	3.86E-06	3.85E-06	3.85E-06
240.00	4.06E-06	4.04E-06	4.03E-06	3.99E-06	3.98E-06	4.01E-06	4.03E-06	4.15E-06	3.93E-06	3.92E-06	3.92E-06
245.00	4.13E-06	4.11E-06	4.10E-06	4.06E-06	4.05E-06	4.08E-06	4.10E-06	4.22E-06	4.00E-06	3.99E-06	3.99E-06
250.00	4.20E-06	4.18E-06	4.17E-06	4.13E-06	4.12E-06	4.15E-06	4.17E-06	4.29E-06	4.07E-06	4.06E-06	4.06E-06
255.00	4.27E-06	4.25E-06	4.24E-06	4.20E-06	4.19E-06	4.22E-06	4.24E-06	4.36E-06	4.14E-06	4.13E-06	4.13E-06
260.00	4.34E-06	4.32E-06	4.31E-06	4.27E-06	4.26E-06	4.29E-06	4.31E-06	4.43E-06	4.21E-06	4.20E-06	4.20E-06

TABLE 32 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: MN
MODEL=HARR: TIME=1989.20.0 PERIOD=1.8723
(ATOMIC-NU=25; ATOMIC-W=54.94)
63.0 DEG 133.4-133.4 EW

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

EN- ERG	UNATTEN- UATED	ATTEN- ATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	1.88E-05	1.32E-06	0.20	0.00E+00	0.00E+00	0.64E-07	0.20E-07	5.09E-07	3.46E-07	3.46E-07	3.79E-07	5.14E-07	5.19E-07	5.26E-07
14	1.53E-05	1.33E-06	0.23	0.00E+00	0.00E+00	1.15E-07	0.85E-07	4.80E-07	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
16	1.40E-05	1.46E-06	0.26	0.00E+00	0.00E+00	1.56E-07	1.07E-07	6.52E-07	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
18	1.29E-05	1.66E-06	0.29	0.00E+00	0.00E+00	1.97E-07	1.37E-07	8.92E-07	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
20	9.55E-06	9.69E-07	0.32	0.00E+00	0.00E+00	2.38E-07	1.68E-07	1.10E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
22	8.85E-06	9.38E-07	0.36	0.00E+00	0.00E+00	2.79E-07	1.99E-07	1.31E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
24	8.27E-06	9.35E-07	0.41	0.00E+00	0.00E+00	3.20E-07	2.30E-07	1.52E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
26	7.84E-06	8.76E-07	0.46	0.00E+00	0.00E+00	3.61E-07	2.61E-07	1.73E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
28	7.47E-06	8.39E-07	0.52	0.00E+00	0.00E+00	4.02E-07	2.92E-07	1.94E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
30	7.17E-06	8.02E-07	0.57	0.00E+00	0.00E+00	4.43E-07	3.23E-07	2.15E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
32	6.92E-06	7.65E-07	0.62	0.00E+00	0.00E+00	4.84E-07	3.54E-07	2.36E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
34	6.71E-06	7.28E-07	0.67	0.00E+00	0.00E+00	5.25E-07	3.85E-07	2.57E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
36	6.53E-06	6.91E-07	0.72	0.00E+00	0.00E+00	5.66E-07	4.16E-07	2.78E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
38	6.38E-06	6.54E-07	0.77	0.00E+00	0.00E+00	6.07E-07	4.47E-07	2.99E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
40	6.25E-06	6.17E-07	0.82	0.00E+00	0.00E+00	6.48E-07	4.78E-07	3.20E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
42	6.14E-06	5.80E-07	0.87	0.00E+00	0.00E+00	6.89E-07	5.09E-07	3.41E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
44	6.04E-06	5.43E-07	0.92	0.00E+00	0.00E+00	7.30E-07	5.40E-07	3.62E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
46	5.95E-06	5.06E-07	0.97	0.00E+00	0.00E+00	7.71E-07	5.71E-07	3.83E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
48	5.87E-06	4.69E-07	1.02	0.00E+00	0.00E+00	8.12E-07	6.02E-07	4.04E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
50	5.80E-06	4.32E-07	1.07	0.00E+00	0.00E+00	8.53E-07	6.33E-07	4.25E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
52	5.74E-06	3.95E-07	1.12	0.00E+00	0.00E+00	8.94E-07	6.64E-07	4.46E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
54	5.68E-06	3.58E-07	1.17	0.00E+00	0.00E+00	9.35E-07	6.95E-07	4.67E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
56	5.63E-06	3.21E-07	1.22	0.00E+00	0.00E+00	9.76E-07	7.26E-07	4.88E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
58	5.58E-06	2.84E-07	1.27	0.00E+00	0.00E+00	1.017E-06	7.57E-07	5.09E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
60	5.53E-06	2.47E-07	1.32	0.00E+00	0.00E+00	1.058E-06	7.88E-07	5.30E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
62	5.49E-06	2.10E-07	1.37	0.00E+00	0.00E+00	1.099E-06	8.19E-07	5.51E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
64	5.45E-06	1.73E-07	1.42	0.00E+00	0.00E+00	1.140E-06	8.50E-07	5.72E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
66	5.41E-06	1.36E-07	1.47	0.00E+00	0.00E+00	1.181E-06	8.81E-07	5.93E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
68	5.38E-06	1.00E-07	1.52	0.00E+00	0.00E+00	1.222E-06	9.12E-07	6.14E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
70	5.34E-06	6.39E-08	1.57	0.00E+00	0.00E+00	1.263E-06	9.43E-07	6.35E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
72	5.31E-06	2.82E-08	1.62	0.00E+00	0.00E+00	1.304E-06	9.74E-07	6.56E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
74	5.28E-06	1.46E-08	1.67	0.00E+00	0.00E+00	1.345E-06	1.005E-06	6.77E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
76	5.25E-06	7.07E-09	1.72	0.00E+00	0.00E+00	1.386E-06	1.036E-06	6.98E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
78	5.22E-06	3.50E-09	1.77	0.00E+00	0.00E+00	1.427E-06	1.067E-06	7.19E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
80	5.19E-06	1.73E-09	1.82	0.00E+00	0.00E+00	1.468E-06	1.098E-06	7.40E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
82	5.16E-06	8.65E-10	1.87	0.00E+00	0.00E+00	1.509E-06	1.129E-06	7.61E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
84	5.13E-06	4.32E-10	1.92	0.00E+00	0.00E+00	1.550E-06	1.160E-06	7.82E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
86	5.10E-06	2.16E-10	1.97	0.00E+00	0.00E+00	1.591E-06	1.191E-06	8.03E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
88	5.07E-06	1.08E-10	2.02	0.00E+00	0.00E+00	1.632E-06	1.222E-06	8.24E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
90	5.04E-06	5.40E-11	2.07	0.00E+00	0.00E+00	1.673E-06	1.253E-06	8.45E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
92	5.01E-06	2.70E-11	2.12	0.00E+00	0.00E+00	1.714E-06	1.284E-06	8.66E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
94	4.98E-06	1.35E-11	2.17	0.00E+00	0.00E+00	1.755E-06	1.315E-06	8.87E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
96	4.95E-06	6.70E-12	2.22	0.00E+00	0.00E+00	1.796E-06	1.346E-06	9.08E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
98	4.92E-06	3.35E-12	2.27	0.00E+00	0.00E+00	1.837E-06	1.377E-06	9.29E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
100	4.89E-06	1.67E-12	2.32	0.00E+00	0.00E+00	1.878E-06	1.408E-06	9.50E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
102	4.86E-06	8.35E-13	2.37	0.00E+00	0.00E+00	1.919E-06	1.439E-06	9.71E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
104	4.83E-06	4.17E-13	2.42	0.00E+00	0.00E+00	1.960E-06	1.470E-06	9.92E-06	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
106	4.80E-06	2.09E-13	2.47	0.00E+00	0.00E+00	2.001E-06	1.501E-06	1.013E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
108	4.77E-06	1.04E-13	2.52	0.00E+00	0.00E+00	2.042E-06	1.532E-06	1.034E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
110	4.74E-06	5.20E-14	2.57	0.00E+00	0.00E+00	2.083E-06	1.563E-06	1.055E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
112	4.71E-06	2.60E-14	2.62	0.00E+00	0.00E+00	2.124E-06	1.594E-06	1.076E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
114	4.68E-06	1.30E-14	2.67	0.00E+00	0.00E+00	2.165E-06	1.625E-06	1.097E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
116	4.65E-06	6.50E-15	2.72	0.00E+00	0.00E+00	2.206E-06	1.656E-06	1.118E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
118	4.62E-06	3.25E-15	2.77	0.00E+00	0.00E+00	2.247E-06	1.687E-06	1.139E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
120	4.59E-06	1.62E-15	2.82	0.00E+00	0.00E+00	2.288E-06	1.718E-06	1.160E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
122	4.56E-06	8.05E-16	2.87	0.00E+00	0.00E+00	2.329E-06	1.749E-06	1.181E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
124	4.53E-06	4.02E-16	2.92	0.00E+00	0.00E+00	2.370E-06	1.780E-06	1.202E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
126	4.50E-06	2.00E-16	2.97	0.00E+00	0.00E+00	2.411E-06	1.811E-06	1.223E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
128	4.47E-06	1.00E-16	3.02	0.00E+00	0.00E+00	2.452E-06	1.842E-06	1.244E-05	3.46E-07	3.46E-07	3.58E-07	4.85E-07	4.90E-07	4.96E-07
130	4.44E-06	5.00E-17	3.07	0.00E+00	0.00E+00	2.493E-06	1.873E-06	1.265.						

TCPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: MN
MODEL= BARR; TIME= 1989-2-0; PERIOD= 1-8723
(ATOMIC-NUM= 25; ATOMIC-WE= 54.94)
63-0 DEG/13J4-1334 NM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM²DAY*MEV/N)

[illegible]

TABLE 33 B

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE 34 A

MAGNETOSPHERICALLY			DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*NEW/N)											
EN- ERGY	UNATTEN- UATED	ATTEN- UATED	SHIELD THICKNESS (GM/CM**2)											
			0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0	
12	1.71E-04	1.39E-05	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
14	1.13E-04	9.11E-06	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
16	7.47E-05	6.41E-06	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
18	5.09E-05	4.28E-06	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
20	3.44E-05	2.91E-06	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
22	2.37E-05	1.97E-06	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
24	1.61E-05	1.32E-06	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
26	1.09E-05	9.11E-07	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
28	7.47E-06	6.41E-07	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
30	5.09E-06	4.28E-07	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
32	3.44E-06	2.91E-07	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
34	2.37E-06	1.97E-07	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
36	1.61E-06	1.32E-07	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
38	1.09E-06	9.11E-08	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
40	7.47E-07	6.41E-08	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
42	5.09E-07	4.28E-08	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
44	3.44E-07	2.91E-08	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
46	2.37E-07	1.97E-08	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
48	1.61E-07	1.32E-08	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
50	1.09E-07	9.11E-09	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
52	7.47E-08	6.41E-09	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
54	5.09E-08	4.28E-09	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
56	3.44E-08	2.91E-09	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
58	2.37E-08	1.97E-09	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
60	1.61E-08	1.32E-09	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
62	1.09E-08	9.11E-10	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
64	7.47E-09	6.41E-10	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
66	5.09E-09	4.28E-10	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
68	3.44E-09	2.91E-10	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
70	2.37E-09	1.97E-10	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
72	1.61E-09	1.32E-10	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
74	1.09E-09	9.11E-11	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
76	7.47E-10	6.41E-11	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
78	5.09E-10	4.28E-11	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
80	3.44E-10	2.91E-11	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
82	2.37E-10	1.97E-11	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
84	1.61E-10	1.32E-11	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
86	1.09E-10	9.11E-12	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
88	7.47E-11	6.41E-12	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
90	5.09E-11	4.28E-12	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
92	3.44E-11	2.91E-12	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
94	2.37E-11	1.97E-12	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
96	1.61E-11	1.32E-12	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
98	1.09E-11	9.11E-13	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	
100	7.47E-12	6.41E-13	0.00E+00	0.00E+00	7.49E-06	5.91E-06	4.78E-06	3.38E-06	3.27E-06	3.75E-06	5.00E-06	5.05E-06	5.05E-06	

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: FE
MODEL: BARR; TIME: 1989.240; PERIOD: 1.4723
ATOMIC-NO: 26; ATOMIC-W: 55.85
63.0 DEC/1334-1334 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.20	0.50	1.00	3.00	5.00	10.00
30.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
32.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
34.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
36.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
38.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
40.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
42.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
44.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
46.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
48.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
50.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
52.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
54.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
56.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
58.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
60.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
62.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
64.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
66.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
68.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
70.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
72.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
74.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
76.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
78.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
80.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
82.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
84.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
86.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
88.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
90.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
92.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
94.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
96.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
98.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05
100.00	1.45E-06	8.47E-06	5.09E-06	7.00E-06	7.90E-06	7.90E-06	8.59E-06	9.28E-06	1.30E-05	1.00E-05	1.10E-05

TABLE 34 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CO
MODEL= BARR; TIME= 1989.2.0; PERIOD= 1.8723
(ATOMIC-NUM= 27; ATOMIC-W= 58.94)
63.0 DEG/1334-1334 MW

SHIELD THICKNESS (GM/CM²) -

TABLE 35A

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CO
MODEL= BARR; TIME= 1989.250; PERIOD= 1.8723
(ATOMIC NUMBER= 2; ATOMIC WM= 58.54)
63.0 DEG/13.4-13.4 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2DAY*MEV/N)

SHIELD THICKNESS (GM/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.20	0.50	1.0	3.0	5.0	10.0
294.2	4.9E-08	4.90E-08	4.86E-08	4.75E-08	4.6E-08	4.7E-08	5.21E-08	5.45E-08	6.89E-08	7.29E-08	6.7E-08
44.9	5.5E-08	5.50E-08	5.39E-08	5.09E-08	4.6E-08	5.21E-08	5.39E-08	6.20E-08	7.43E-08	7.55E-08	7.2E-08
50.3	6.1E-08	6.06E-08	5.93E-08	5.52E-08	5.0E-08	5.52E-08	5.69E-08	7.01E-08	8.22E-08	8.44E-08	8.0E-08
56.8	6.7E-08	6.66E-08	6.53E-08	6.11E-08	5.6E-08	6.11E-08	6.28E-08	7.61E-08	9.19E-08	9.40E-08	9.0E-08
64.0	7.4E-08	7.36E-08	7.23E-08	6.81E-08	6.3E-08	6.81E-08	6.98E-08	8.38E-08	1.01E-07	1.05E-07	1.0E-07
72.6	8.1E-08	8.06E-08	7.93E-08	7.51E-08	7.0E-08	7.51E-08	7.68E-08	9.08E-08	1.08E-07	1.12E-07	1.0E-07
82.6	8.9E-08	8.86E-08	8.73E-08	8.31E-08	7.8E-08	8.31E-08	8.48E-08	1.05E-07	1.23E-07	1.27E-07	1.2E-07
94.3	9.7E-08	9.66E-08	9.53E-08	9.11E-08	8.6E-08	9.11E-08	9.28E-08	1.15E-07	1.33E-07	1.37E-07	1.3E-07
107.6	1.05E-07	1.04E-07	1.03E-07	9.89E-08	9.4E-08	9.89E-08	1.00E-07	1.22E-07	1.46E-07	1.50E-07	1.4E-07
122.6	1.13E-07	1.12E-07	1.11E-07	1.07E-07	1.02E-07	1.07E-07	1.08E-07	1.32E-07	1.58E-07	1.62E-07	1.5E-07
139.2	1.21E-07	1.20E-07	1.19E-07	1.15E-07	1.10E-07	1.15E-07	1.16E-07	1.43E-07	1.71E-07	1.75E-07	1.6E-07
157.6	1.29E-07	1.28E-07	1.27E-07	1.23E-07	1.18E-07	1.23E-07	1.24E-07	1.50E-07	1.79E-07	1.83E-07	1.7E-07
177.6	1.37E-07	1.36E-07	1.35E-07	1.31E-07	1.26E-07	1.31E-07	1.32E-07	1.59E-07	1.87E-07	1.91E-07	1.8E-07
200.0	1.45E-07	1.44E-07	1.43E-07	1.39E-07	1.34E-07	1.39E-07	1.40E-07	1.67E-07	1.95E-07	1.99E-07	1.9E-07
224.9	1.53E-07	1.52E-07	1.51E-07	1.47E-07	1.42E-07	1.47E-07	1.48E-07	1.75E-07	2.03E-07	2.07E-07	1.9E-07
252.6	1.61E-07	1.60E-07	1.59E-07	1.55E-07	1.50E-07	1.55E-07	1.56E-07	1.83E-07	2.11E-07	2.15E-07	2.0E-07
283.6	1.69E-07	1.68E-07	1.67E-07	1.63E-07	1.58E-07	1.63E-07	1.64E-07	1.91E-07	2.19E-07	2.23E-07	2.1E-07
318.6	1.77E-07	1.76E-07	1.75E-07	1.71E-07	1.66E-07	1.71E-07	1.72E-07	1.99E-07	2.27E-07	2.31E-07	2.2E-07
357.6	1.85E-07	1.84E-07	1.83E-07	1.79E-07	1.74E-07	1.79E-07	1.80E-07	2.07E-07	2.35E-07	2.39E-07	2.3E-07
400.0	1.93E-07	1.92E-07	1.91E-07	1.87E-07	1.82E-07	1.87E-07	1.88E-07	2.15E-07	2.43E-07	2.47E-07	2.4E-07
447.6	2.01E-07	2.00E-07	1.99E-07	1.95E-07	1.90E-07	1.95E-07	1.96E-07	2.23E-07	2.51E-07	2.55E-07	2.5E-07
500.0	2.09E-07	2.08E-07	2.07E-07	2.03E-07	1.98E-07	2.03E-07	2.04E-07	2.31E-07	2.59E-07	2.63E-07	2.6E-07
557.6	2.17E-07	2.16E-07	2.15E-07	2.11E-07	2.06E-07	2.11E-07	2.12E-07	2.39E-07	2.67E-07	2.71E-07	2.7E-07
620.0	2.25E-07	2.24E-07	2.23E-07	2.19E-07	2.14E-07	2.19E-07	2.20E-07	2.47E-07	2.75E-07	2.79E-07	2.8E-07
688.6	2.33E-07	2.32E-07	2.31E-07	2.27E-07	2.22E-07	2.27E-07	2.28E-07	2.55E-07	2.83E-07	2.87E-07	2.9E-07
763.6	2.41E-07	2.40E-07	2.39E-07	2.35E-07	2.30E-07	2.35E-07	2.36E-07	2.63E-07	2.91E-07	2.95E-07	2.9E-07
845.6	2.49E-07	2.48E-07	2.47E-07	2.43E-07	2.38E-07	2.43E-07	2.44E-07	2.71E-07	3.03E-07	3.07E-07	3.0E-07
935.6	2.57E-07	2.56E-07	2.55E-07	2.51E-07	2.46E-07	2.51E-07	2.52E-07	2.79E-07	3.11E-07	3.15E-07	3.1E-07
1035.0	2.65E-07	2.64E-07	2.63E-07	2.59E-07	2.54E-07	2.59E-07	2.60E-07	2.87E-07	3.19E-07	3.23E-07	3.2E-07
1145.0	2.73E-07	2.72E-07	2.71E-07	2.67E-07	2.62E-07	2.67E-07	2.68E-07	2.95E-07	3.27E-07	3.31E-07	3.3E-07
1265.0	2.81E-07	2.80E-07	2.79E-07	2.75E-07	2.70E-07	2.75E-07	2.76E-07	3.03E-07	3.35E-07	3.39E-07	3.4E-07
1395.0	2.89E-07	2.88E-07	2.87E-07	2.83E-07	2.78E-07	2.83E-07	2.84E-07	3.11E-07	3.43E-07	3.47E-07	3.5E-07
1535.0	2.97E-07	2.96E-07	2.95E-07	2.91E-07	2.86E-07	2.91E-07	2.92E-07	3.19E-07	3.51E-07	3.55E-07	3.6E-07
1685.0	3.05E-07	3.04E-07	3.03E-07	2.99E-07	2.94E-07	2.99E-07	3.00E-07	3.27E-07	3.59E-07	3.63E-07	3.7E-07
1845.0	3.13E-07	3.12E-07	3.11E-07	3.07E-07	3.02E-07	3.07E-07	3.08E-07	3.35E-07	3.67E-07	3.71E-07	3.8E-07
2015.0	3.21E-07	3.20E-07	3.19E-07	3.15E-07	3.10E-07	3.15E-07	3.16E-07	3.43E-07	3.75E-07	3.79E-07	3.9E-07
2200.0	3.29E-07	3.28E-07	3.27E-07	3.23E-07	3.18E-07	3.23E-07	3.24E-07	3.51E-07	3.83E-07	3.87E-07	4.0E-07

TABLE 35 B

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NI
MODEL-
PARTICLE TIME 1989.12.01 PERIOD=1.0723
(ATOMIC-NU= 28; ATOMIC-W= 58.71)
63.0 DEG/133-133+ 88

MAGNETOSPHERICALLY		DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM ² *DAY*MEV/N)												
EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	SHIELD THICKNESS (G/CM ²)*2										
				0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.0	3.0	5.0	10.0
12	8.19E-06	6.05E-07	0.20	0.00E+00	4.02E-07	3.15E-07	2.73E-07	2.41E-07	1.50E-07	1.78E-07	2.08E-07	2.54E-07	2.71E-07	2.51E-07
14	6.68E-06	5.00E-07	0.23	0.00E+00	4.76E-07	3.70E-07	3.27E-07	2.94E-07	1.70E-07	1.98E-07	2.30E-07	2.85E-07	3.02E-07	2.82E-07
16	5.47E-06	4.10E-07	0.25	0.00E+00	5.61E-07	4.30E-07	3.87E-07	3.54E-07	2.00E-07	2.28E-07	2.60E-07	3.25E-07	3.42E-07	3.22E-07
18	4.50E-06	3.35E-07	0.28	0.00E+00	6.57E-07	5.00E-07	4.57E-07	4.24E-07	2.20E-07	2.48E-07	2.80E-07	3.55E-07	3.72E-07	3.52E-07
20	3.75E-06	2.75E-07	0.32	0.00E+00	7.64E-07	5.77E-07	5.34E-07	5.01E-07	2.50E-07	2.78E-07	3.10E-07	3.85E-07	4.02E-07	3.82E-07
22	3.15E-06	2.30E-07	0.36	0.00E+00	8.82E-07	6.64E-07	6.21E-07	5.88E-07	2.80E-07	3.08E-07	3.40E-07	4.15E-07	4.32E-07	4.12E-07
24	2.65E-06	1.90E-07	0.41	0.00E+00	1.01E-06	7.64E-07	7.21E-07	6.88E-07	3.00E-07	3.28E-07	3.60E-07	4.35E-07	4.52E-07	4.32E-07
26	2.25E-06	1.60E-07	0.46	0.00E+00	1.15E-06	8.72E-07	8.29E-07	7.96E-07	3.20E-07	3.48E-07	3.80E-07	4.55E-07	4.72E-07	4.52E-07
28	1.90E-06	1.35E-07	0.52	0.00E+00	1.30E-06	9.90E-07	9.47E-07	9.14E-07	3.40E-07	3.68E-07	4.00E-07	4.75E-07	4.92E-07	4.72E-07
30	1.60E-06	1.10E-07	0.57	0.00E+00	1.46E-06	1.12E-06	1.07E-06	1.04E-06	3.60E-07	3.88E-07	4.20E-07	4.95E-07	5.12E-07	4.92E-07
32	1.35E-06	9.50E-08	0.63	0.00E+00	1.63E-06	1.26E-06	1.21E-06	1.18E-06	3.80E-07	4.08E-07	4.40E-07	5.15E-07	5.32E-07	5.12E-07
34	1.15E-06	8.00E-08	0.69	0.00E+00	1.81E-06	1.41E-06	1.36E-06	1.33E-06	4.00E-07	4.28E-07	4.60E-07	5.35E-07	5.52E-07	5.32E-07
36	9.80E-07	6.75E-08	0.75	0.00E+00	2.00E-06	1.57E-06	1.52E-06	1.49E-06	4.20E-07	4.48E-07	4.80E-07	5.55E-07	5.72E-07	5.52E-07
38	8.30E-07	5.70E-08	0.81	0.00E+00	2.20E-06	1.74E-06	1.69E-06	1.66E-06	4.40E-07	4.68E-07	5.00E-07	5.75E-07	5.92E-07	5.72E-07
40	7.00E-07	4.80E-08	0.85	0.00E+00	2.40E-06	1.92E-06	1.87E-06	1.84E-06	4.60E-07	4.88E-07	5.20E-07	5.95E-07	6.12E-07	5.92E-07
42	5.90E-07	4.05E-08	0.90	0.00E+00	2.60E-06	2.11E-06	2.06E-06	2.03E-06	4.80E-07	5.08E-07	5.40E-07	6.15E-07	6.32E-07	6.12E-07
44	5.00E-07	3.40E-08	0.95	0.00E+00	2.80E-06	2.31E-06	2.26E-06	2.23E-06	5.00E-07	5.28E-07	5.60E-07	6.35E-07	6.52E-07	6.32E-07
46	4.30E-07	2.90E-08	1.00	0.00E+00	3.00E-06	2.52E-06	2.47E-06	2.44E-06	5.20E-07	5.48E-07	5.80E-07	6.55E-07	6.72E-07	6.52E-07
48	3.70E-07	2.50E-08	1.05	0.00E+00	3.20E-06	2.73E-06	2.68E-06	2.65E-06	5.40E-07	5.68E-07	6.00E-07	6.75E-07	6.92E-07	6.72E-07
50	3.20E-07	2.20E-08	1.10	0.00E+00	3.40E-06	2.94E-06	2.89E-06	2.86E-06	5.60E-07	5.88E-07	6.20E-07	6.95E-07	7.12E-07	6.92E-07
52	2.80E-07	1.90E-08	1.15	0.00E+00	3.60E-06	3.15E-06	3.10E-06	3.07E-06	5.80E-07	6.08E-07	6.40E-07	7.15E-07	7.32E-07	7.12E-07
54	2.40E-07	1.60E-08	1.20	0.00E+00	3.80E-06	3.36E-06	3.31E-06	3.28E-06	6.00E-07	6.28E-07	6.60E-07	7.35E-07	7.52E-07	7.32E-07
56	2.10E-07	1.40E-08	1.25	0.00E+00	4.00E-06	3.57E-06	3.52E-06	3.49E-06	6.20E-07	6.48E-07	6.80E-07	7.55E-07	7.72E-07	7.52E-07
58	1.80E-07	1.20E-08	1.30	0.00E+00	4.20E-06	3.78E-06	3.73E-06	3.70E-06	6.40E-07	6.68E-07	7.00E-07	7.75E-07	7.92E-07	7.72E-07
60	1.60E-07	1.00E-08	1.35	0.00E+00	4.40E-06	3.99E-06	3.94E-06	3.91E-06	6.60E-07	6.88E-07	7.20E-07	7.95E-07	8.12E-07	7.92E-07
62	1.40E-07	8.80E-09	1.40	0.00E+00	4.60E-06	4.20E-06	4.15E-06	4.12E-06	6.80E-07	7.08E-07	7.40E-07	8.15E-07	8.32E-07	8.12E-07
64	1.20E-07	7.70E-09	1.45	0.00E+00	4.80E-06	4.41E-06	4.36E-06	4.33E-06	7.00E-07	7.28E-07	7.60E-07	8.25E-07	8.42E-07	8.22E-07
66	1.00E-07	6.70E-09	1.50	0.00E+00	5.00E-06	4.62E-06	4.57E-06	4.54E-06	7.20E-07	7.48E-07	7.80E-07	8.45E-07	8.62E-07	8.42E-07
68	8.80E-08	5.80E-09	1.55	0.00E+00	5.20E-06	4.83E-06	4.78E-06	4.75E-06	7.40E-07	7.68E-07	8.00E-07	8.65E-07	8.82E-07	8.62E-07
70	7.80E-08	5.00E-09	1.60	0.00E+00	5.40E-06	5.04E-06	4.99E-06	4.96E-06	7.60E-07	7.88E-07	8.20E-07	8.85E-07	9.02E-07	8.82E-07
72	6.90E-08	4.30E-09	1.65	0.00E+00	5.60E-06	5.25E-06	5.20E-06	5.17E-06	7.80E-07	8.08E-07	8.40E-07	9.05E-07	9.22E-07	9.02E-07
74	6.10E-08	3.70E-09	1.70	0.00E+00	5.80E-06	5.46E-06	5.41E-06	5.38E-06	8.00E-07	8.28E-07	8.60E-07	9.25E-07	9.42E-07	9.22E-07
76	5.40E-08	3.20E-09	1.75	0.00E+00	6.00E-06	5.67E-06	5.62E-06	5.59E-06	8.20E-07	8.48E-07	8.80E-07	9.45E-07	9.62E-07	9.42E-07
78	4.80E-08	2.80E-09	1.80	0.00E+00	6.20E-06	5.88E-06	5.83E-06	5.80E-06	8.40E-07	8.68E-07	9.00E-07	9.65E-07	9.82E-07	9.62E-07
80	4.20E-08	2.50E-09	1.85	0.00E+00	6.40E-06	6.09E-06	6.04E-06	6.01E-06	8.60E-07	8.88E-07	9.20E-07	9.85E-07	1.00E-07	9.82E-07
82	3.70E-08	2.20E-09	1.90	0.00E+00	6.60E-06	6.30E-06	6.25E-06	6.22E-06	8.80E-07	9.08E-07	9.40E-07	1.00E-07	1.02E-07	1.00E-07
84	3.30E-08	1.90E-09	1.95	0.00E+00	6.80E-06	6.51E-06	6.46E-06	6.43E-06	9.00E-07	9.28E-07	9.60E-07	1.02E-07	1.04E-07	1.02E-07
86	2.90E-08	1.70E-09	2.00	0.00E+00	7.00E-06	6.72E-06	6.67E-06	6.64E-06	9.20E-07	9.48E-07	9.80E-07	1.04E-07	1.06E-07	1.04E-07
88	2.60E-08	1.50E-09	2.05	0.00E+00	7.20E-06	6.93E-06	6.88E-06	6.85E-06	9.40E-07	9.68E-07	1.00E-07	1.06E-07	1.08E-07	1.06E-07
90	2.30E-08	1.30E-09	2.10	0.00E+00	7.40E-06	7.14E-06	7.09E-06	7.06E-06	9.60E-07	9.88E-07	1.02E-07	1.08E-07	1.10E-07	1.08E-07
92	2.00E-08	1.10E-09	2.15	0.00E+00	7.60E-06	7.35E-06	7.30E-06	7.27E-06	9.80E-07	1.00E-07	1.04E-07	1.10E-07	1.12E-07	1.10E-07
94	1.80E-08	1.00E-09	2.20	0.00E+00	7.80E-06	7.56E-06	7.51E-06	7.48E-06	1.00E-07	1.02E-07	1.06E-07	1.12E-07	1.14E-07	1.12E-07
96	1.60E-08	9.00E-10	2.25	0.00E+00	8.00E-06	7.77E-06	7.72E-06	7.69E-06	1.02E-07	1.04E-07	1.08E-07	1.14E-07	1.16E-07	1.14E-07
98	1.40E-08	8.00E-10	2.30	0.00E+00	8.20E-06	7.98E-06	7.93E-06	7.90E-06	1.04E-07	1.06E-07	1.10E-07	1.16E-07	1.18E-07	1.16E-07
100	1.20E-08	7.00E-10	2.35	0.00E+00	8.40E-06	8.19E-06	8.14E-06	8.11E-06	1.06E-07	1.08E-07	1.12E-07	1.18E-07	1.20E-07	1.18E-07
102	1.00E-08	6.00E-10	2.40	0.00E+00	8.60E-06	8.40E-06	8.35E-06	8.32E-06	1.08E-07	1.10E-07	1.14E-07	1.20E-07	1.22E-07	1.20E-07
104	9.00E-09	5.20E-10	2.45	0.00E+00	8.80E-06	8.61E-06	8.56E-06	8.53E-06	1.10E-07	1.12E-07	1.16E-07	1.22E-07	1.24E-07	1.22E-07
106	8.00E-09	4.50E-10	2.50	0.00E+00	9.00E-06	8.82E-06	8.77E-06	8.74E-06	1.12E-07	1.14E-07	1.18E-07	1.24E-07	1.26E-07	1.24E-07
108	7.20E-09	3.90E-10	2.55	0.00E+00	9.20E-06	9.03E-06	8.98E-06	8.95E-06	1.14E-07	1.16E-07	1.20E-07	1.26E-07	1.28E-07	1.26E-07
110	6.50E-09	3.40E-10	2.60	0.00E+00	9.40E-06	9.24E-06	9.19E-06	9.16E-06	1.16E-07	1.18E-07	1.22E-07	1.28E-07	1.30E-07	1.28E-07
112	5.90E-09	3.00E-10	2.65	0.00E+00	9.60E-06	9.45E-06	9.40E-06	9.37E-06	1.18E-07	1.20E-07	1.24E-07	1.30E-07	1.32E-07	1.30E-07
114	5.30E-09	2.60E-10	2.70	0.00E+00	9.80E-06	9.66E-06	9.61E-06	9.58E-06	1.20E-07	1.22E-07	1.26E-07	1.32E-07	1.34E-07	1.32E-07
116	4.80E-09	2.30E-10	2.75	0.00E+00	1.00E-05	9.87E-06	9.82E-06	9.79E-06	1.22E-07	1.24E-07	1.28E-07	1.34E-07	1.36E-07	1.34E-07
118	4.30E-09	2.00E-10	2.80	0.00E+00	1.02E-05	1.008E-05	1.003E-05	1.000E-05	1.24E-07	1.26E-07	1.30E-07	1.36E-07	1.38E-07	1.36E-07
120	3.90E-09	1.70E-10	2.85	0.00E+00	1.04E-05	1.029E-05	1.024E-05	1.021E-05	1.26E-07	1.28E-07	1.32E-07	1.38E-07	1.40E-07	1.38E-07
122	3.50E-09	1.50E-10	2.90	0.00E+00	1.06E-05	1.050E-05	1.045E-05	1.042E-05	1.28E-07	1.30E-07	1.34E-07	1.40E-07	1.42E-07	1.40E-07
124	3.20E-09	1.30E-10	2.95	0.00E+00	1.08E-05	1.071E-05	1.066E-05	1.063E-05	1.30E-07	1.32E-07	1.36E-07	1.42E-07	1.44E-07	1.42E-07
126	2.90E-09	1.10E-10	3.00	0.00E+00	1.10E-05	1.091E-05	1.086E-05	1.083E-05	1.32E-07	1.34E-07	1.38E-07	1.44E-07	1.46E-07	1.44E-07
128	2.60E-09	1.00E-10	3.05	0.00E+00	1.12E-05	1.111E-05	1.106E-05	1.103E-05	1.34E-07	1.36E-07	1.40E-07	1.46E-07	1.48E-07	1.46E-07
130	2.40E-09	9.00E-11	3.10	0.00E+00	1.14E-05	1.131E-05	1.126E-05	1.123E-05	1.36E-07	1.38E-07	1.42E-07	1.48E-07	1.50E-07	1.48E-07
132	2.20E-09	8.00E-11	3.15	0.00E+00	1.16E-05	1.151E-05	1.146E-05	1.143E-05	1.38E-07	1.40E-07	1.44E-07	1.50E-07	1.52E-07	1.50E-07
134	2.00E-09	7.00E-11	3.20											

TOPEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NI
MODEL = BARR; TIME = 1989.2.0; PERIOD = 1.8723
ATOMIC-NUCLEUS = 28; ATOMIC-W = 58.71
63.0 DEGR1334-1334 64

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM**2*DAY*MEV/N)
SHIELD THICKNESS (G/CM**2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.20	0.50	1.0	3.0	5.0	10.0
30.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
32.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
34.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
36.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
38.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
40.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
42.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
44.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
46.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
48.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
50.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
52.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
54.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
56.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
58.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
60.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
62.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
64.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
66.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
68.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
70.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
72.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
74.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
76.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
78.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
80.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
82.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
84.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
86.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
88.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
90.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
92.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
94.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
96.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
98.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07
100.0	3.04E-07	3.04E-07	3.01E-07	3.02E-07	3.02E-07	3.05E-07	4.03E-07	4.76E-07	5.71E-07	5.63E-07	5.49E-07

TABLE 36 B

FIGURE 1

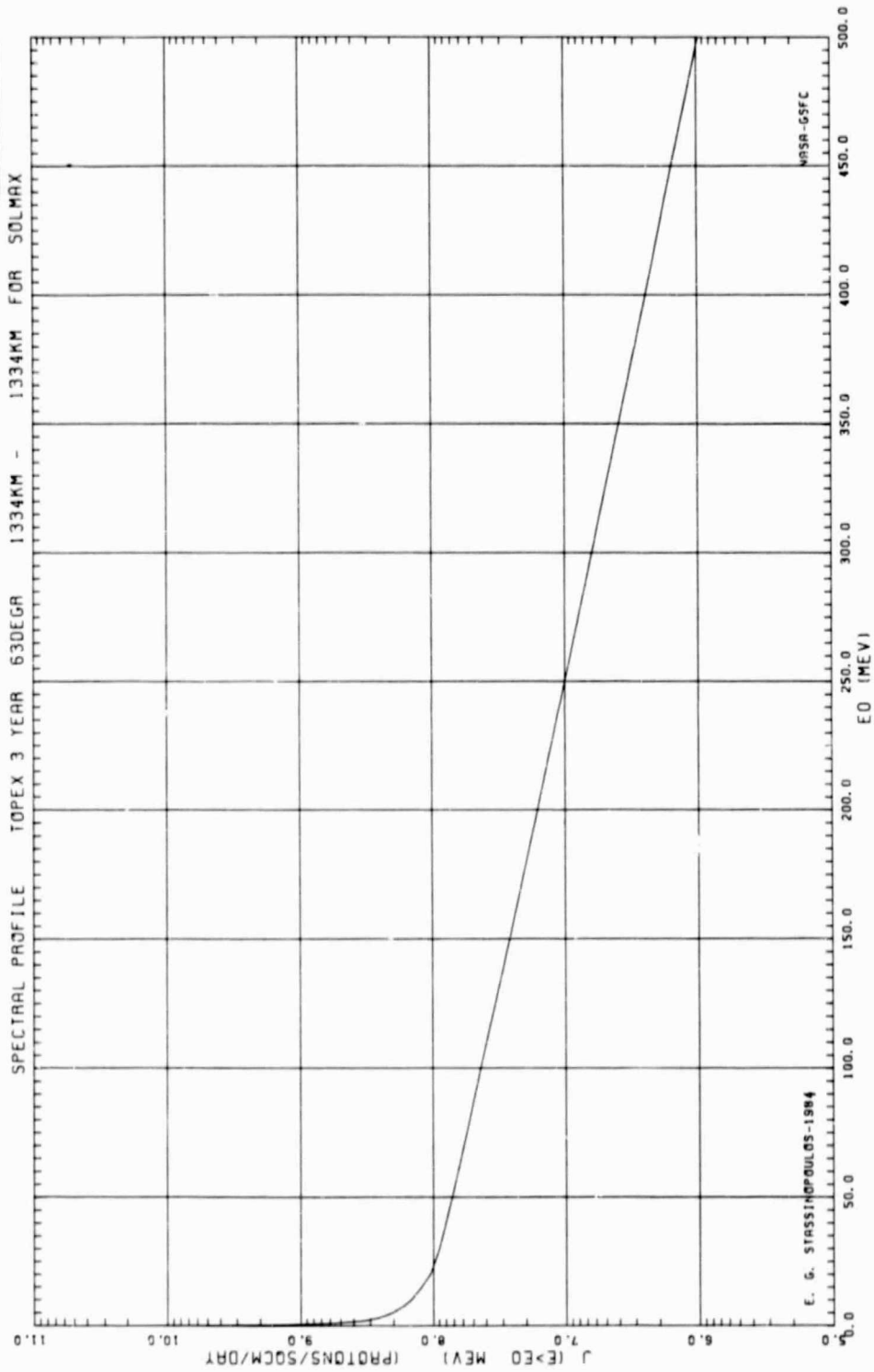


FIGURE 2

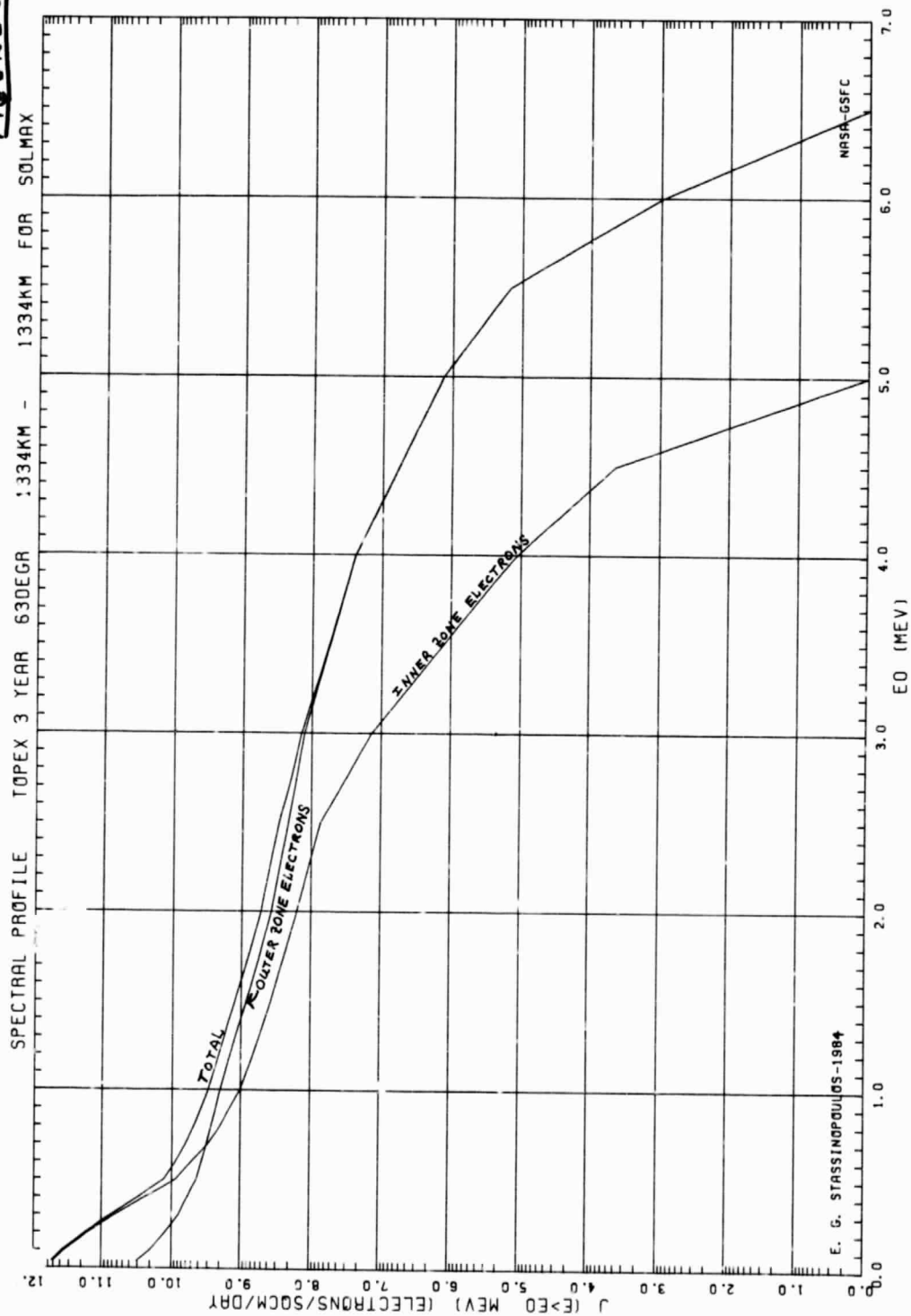
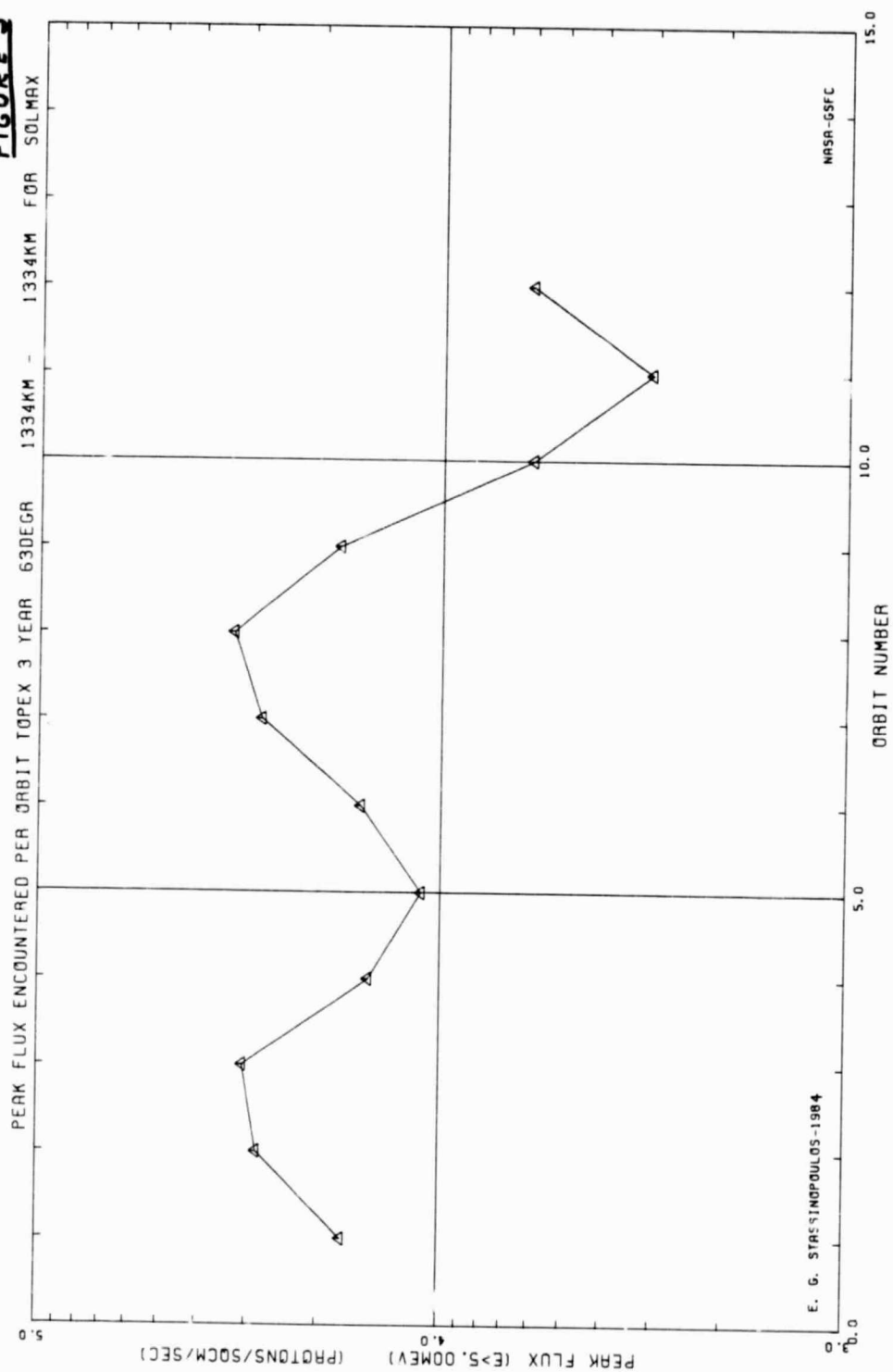
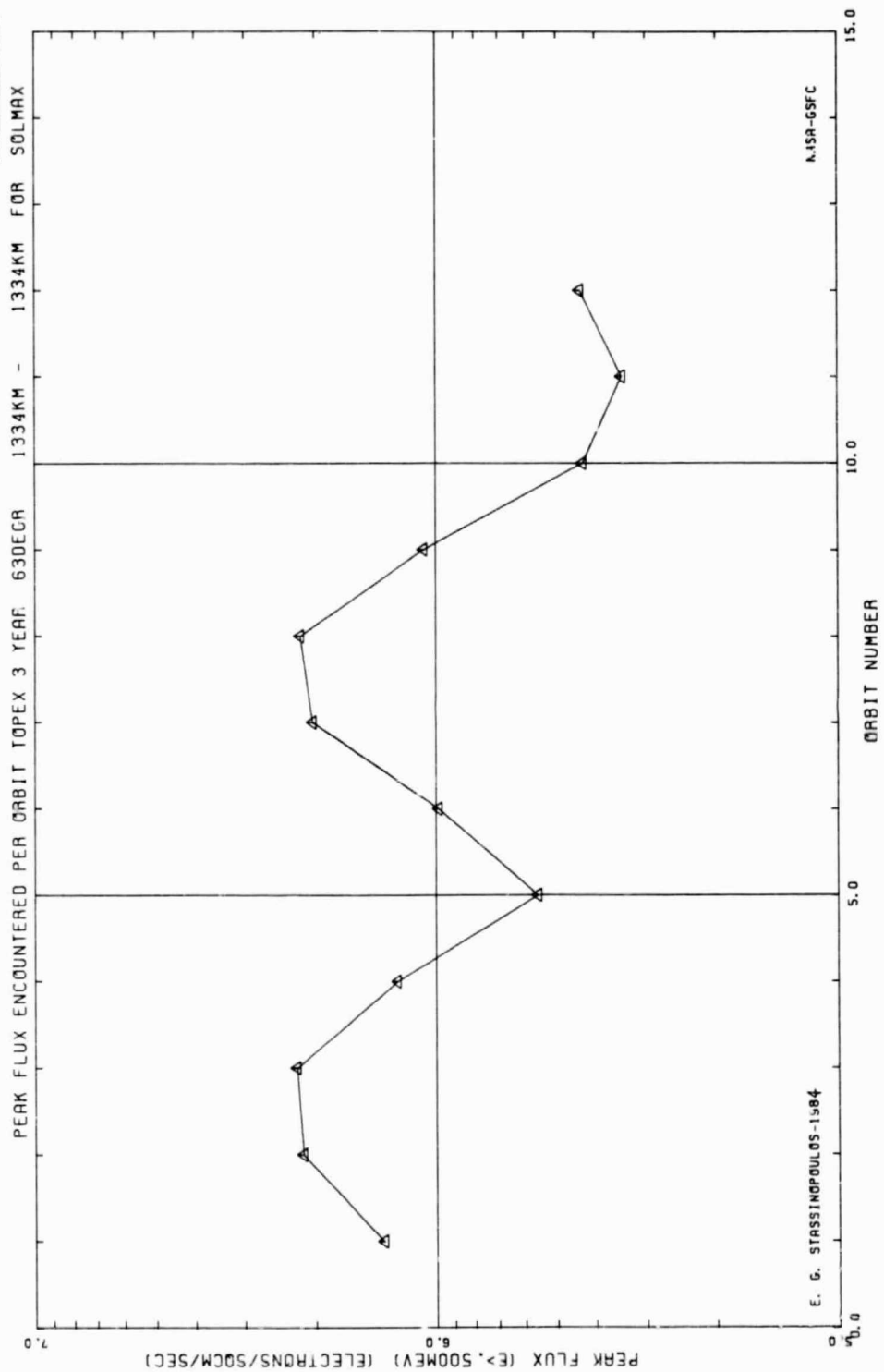


FIGURE 3

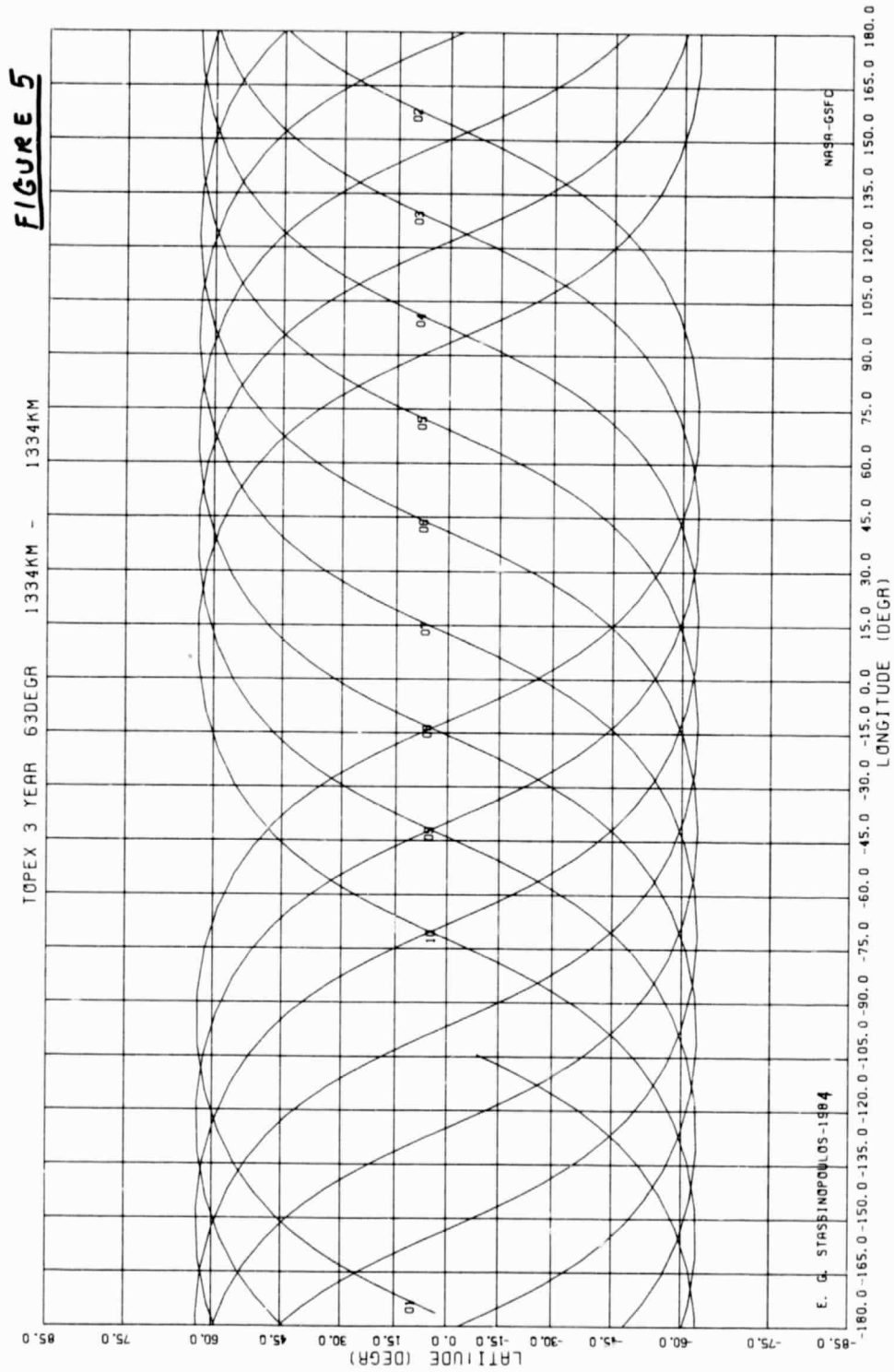


ORIGINAL PAGE 19
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FIGURE 4



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ORIGINAL PAGE IS
OF POOR QUALITY

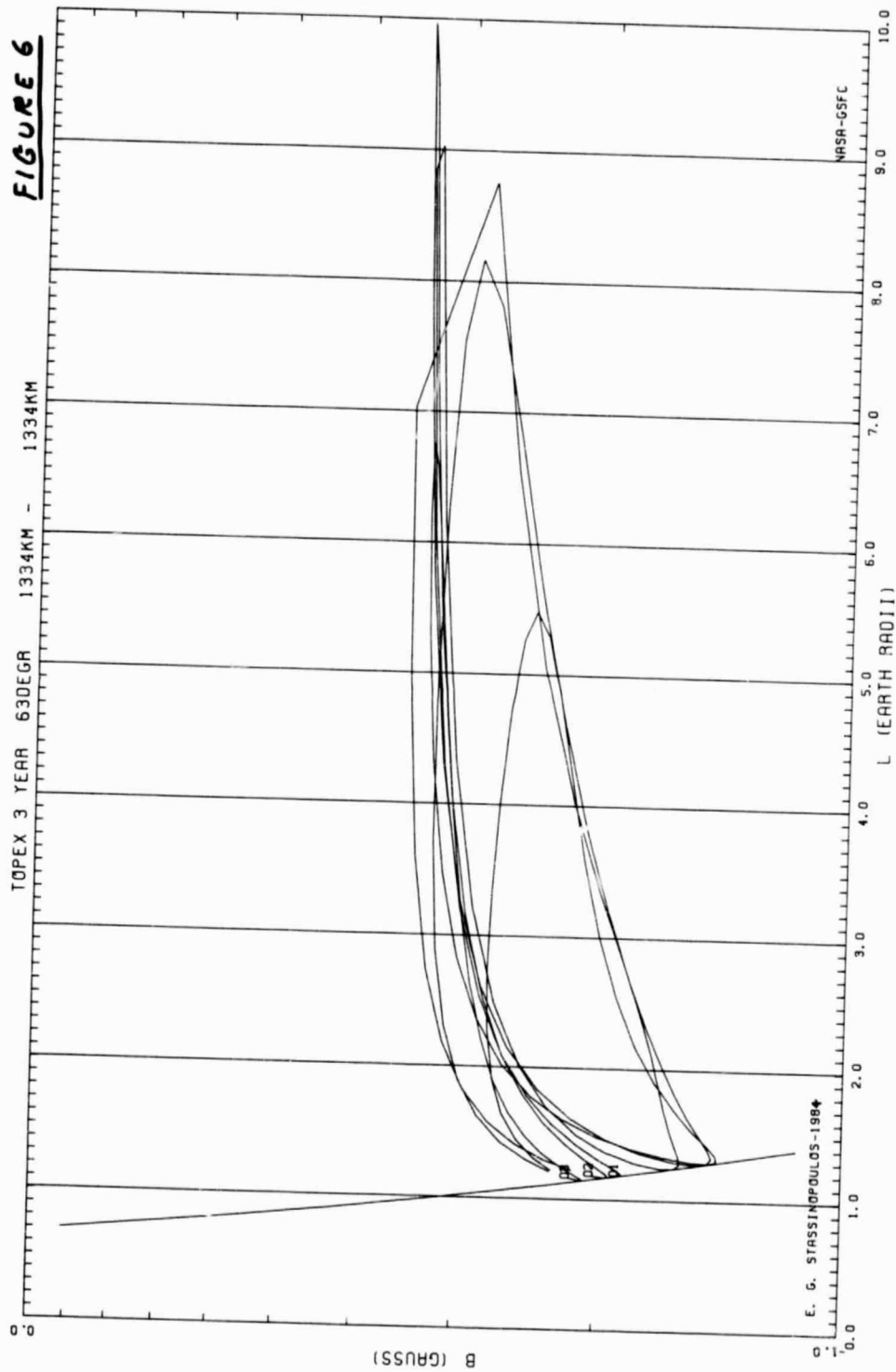


FIGURE 7

DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB SHIELDS * TOPEX 3 YEAR

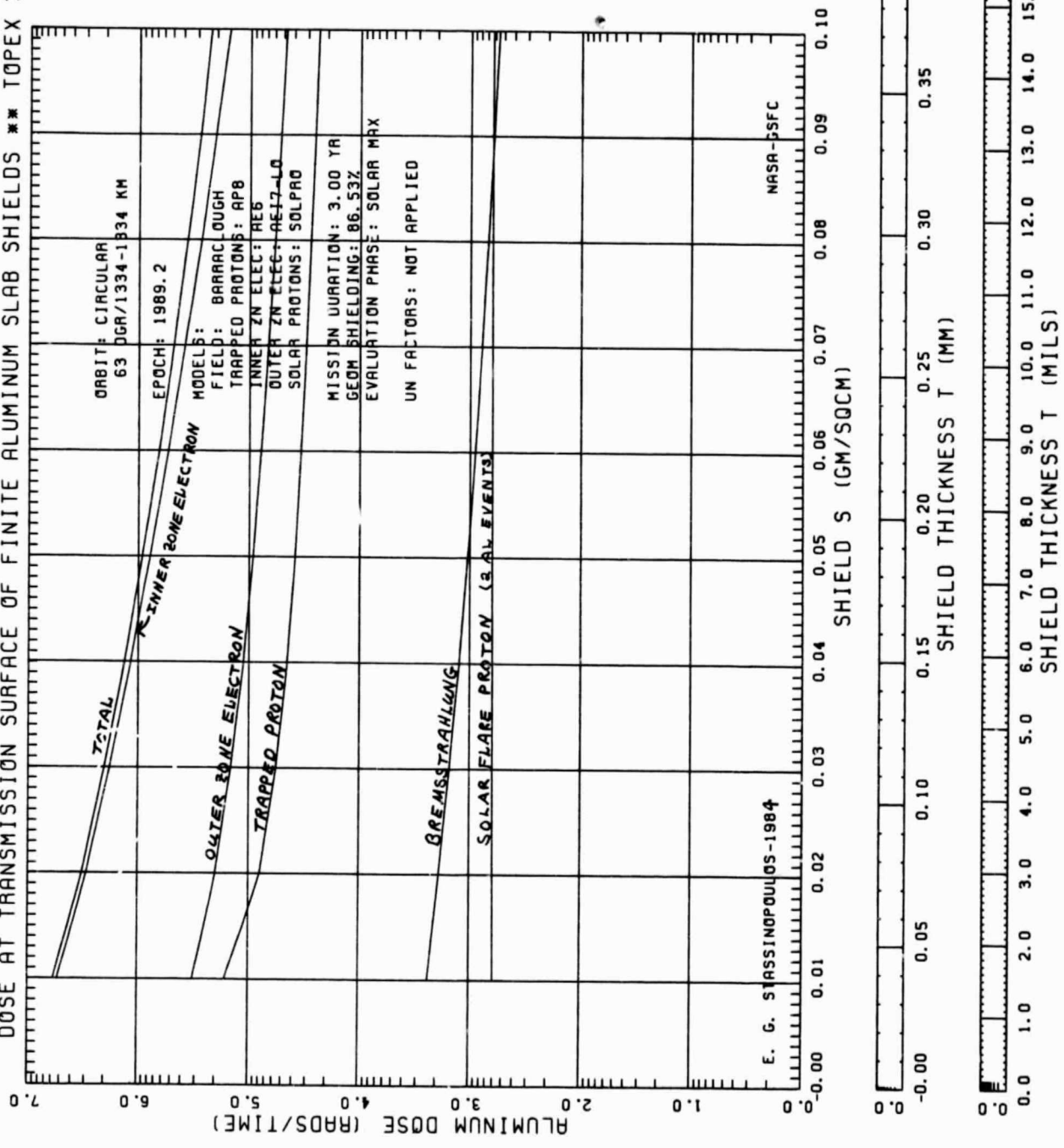


FIGURE 8

DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB SHIELDS ** TOPEX 3 YEAR

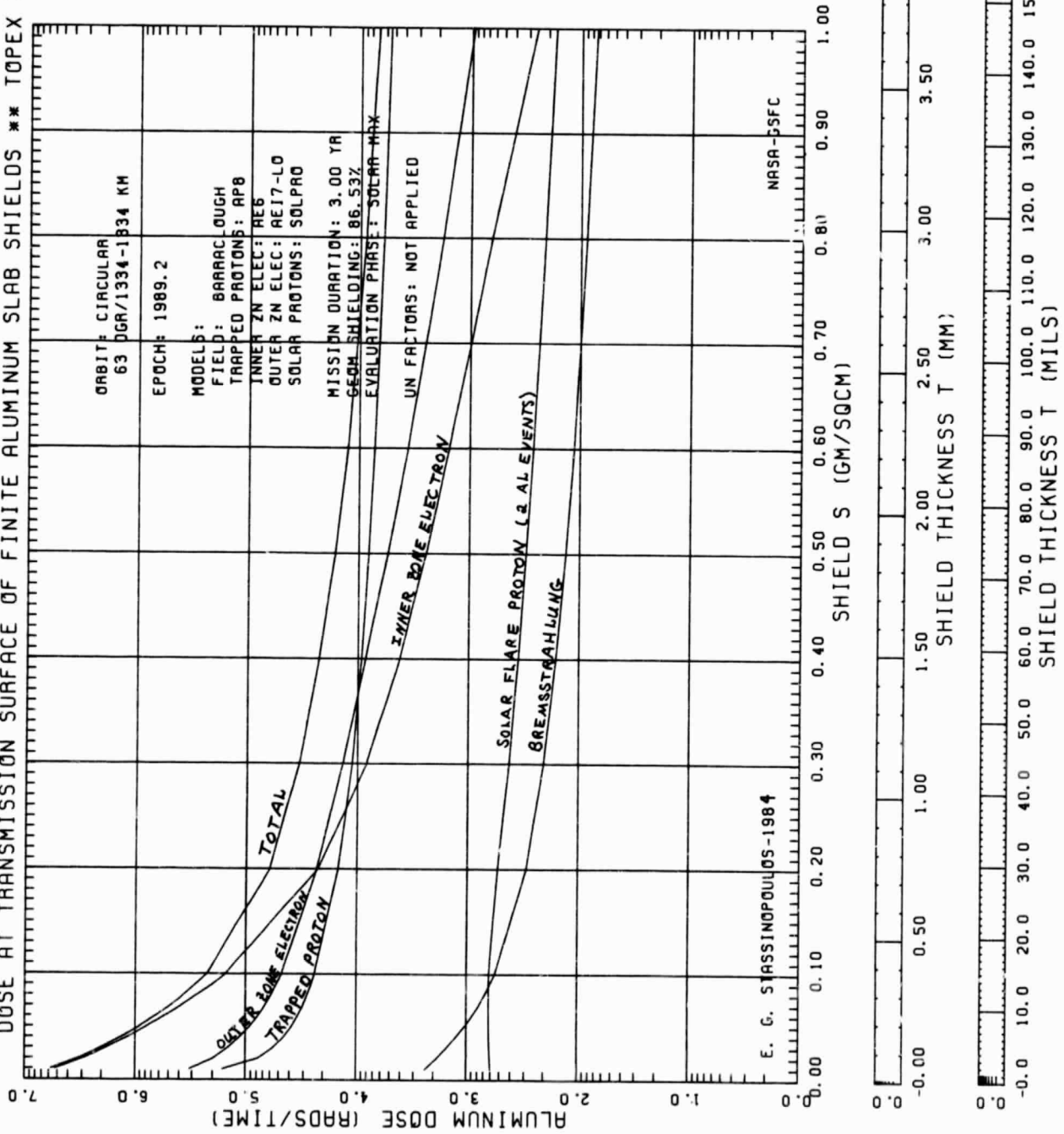


FIGURE 9

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DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB SHIELDS ** TOPEX 3 YEAR

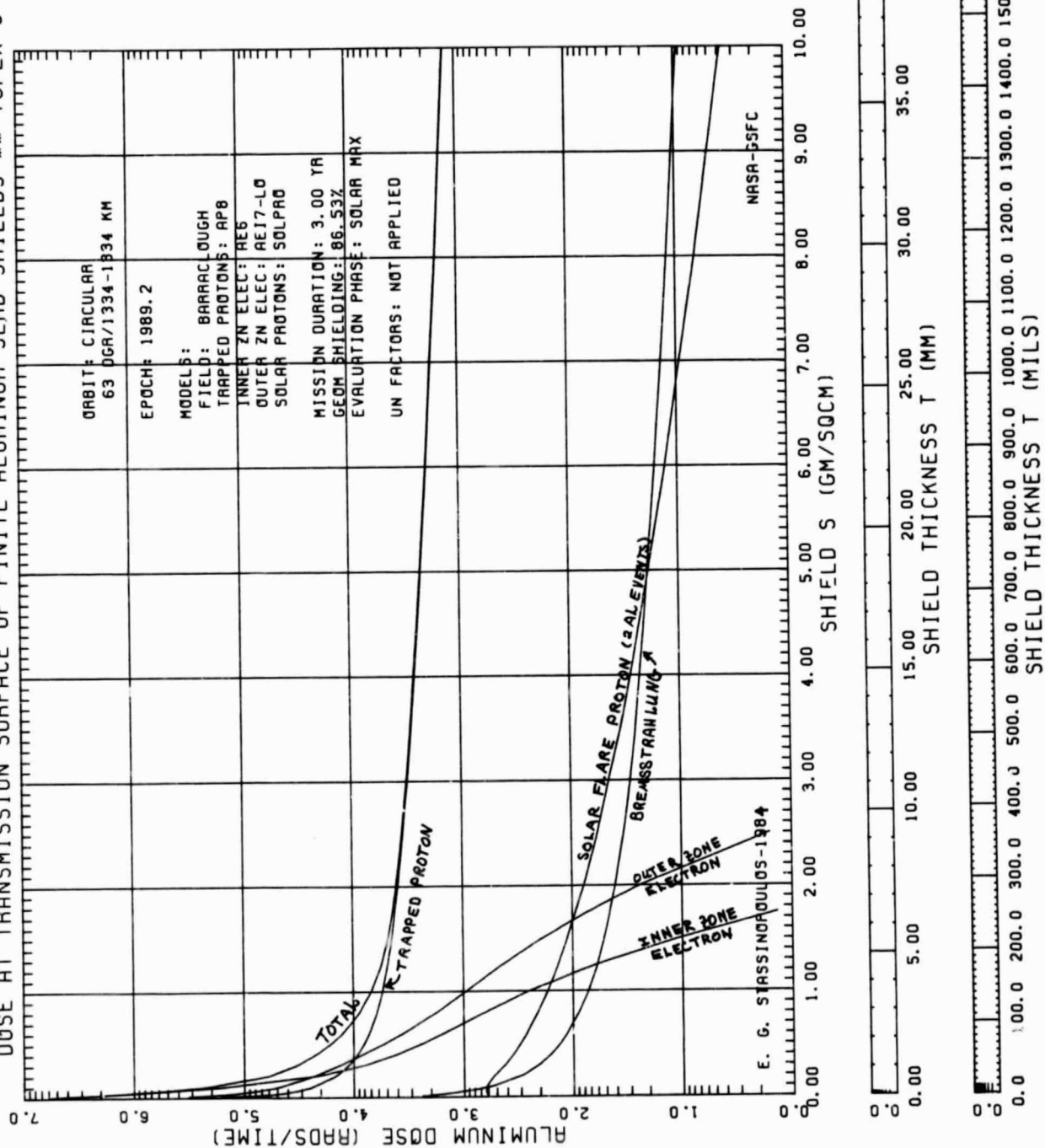


FIGURE 10

DOSE IN SEMI-INFINITE ALUMINUM MEDIUM * TUPEX 3 YEAR

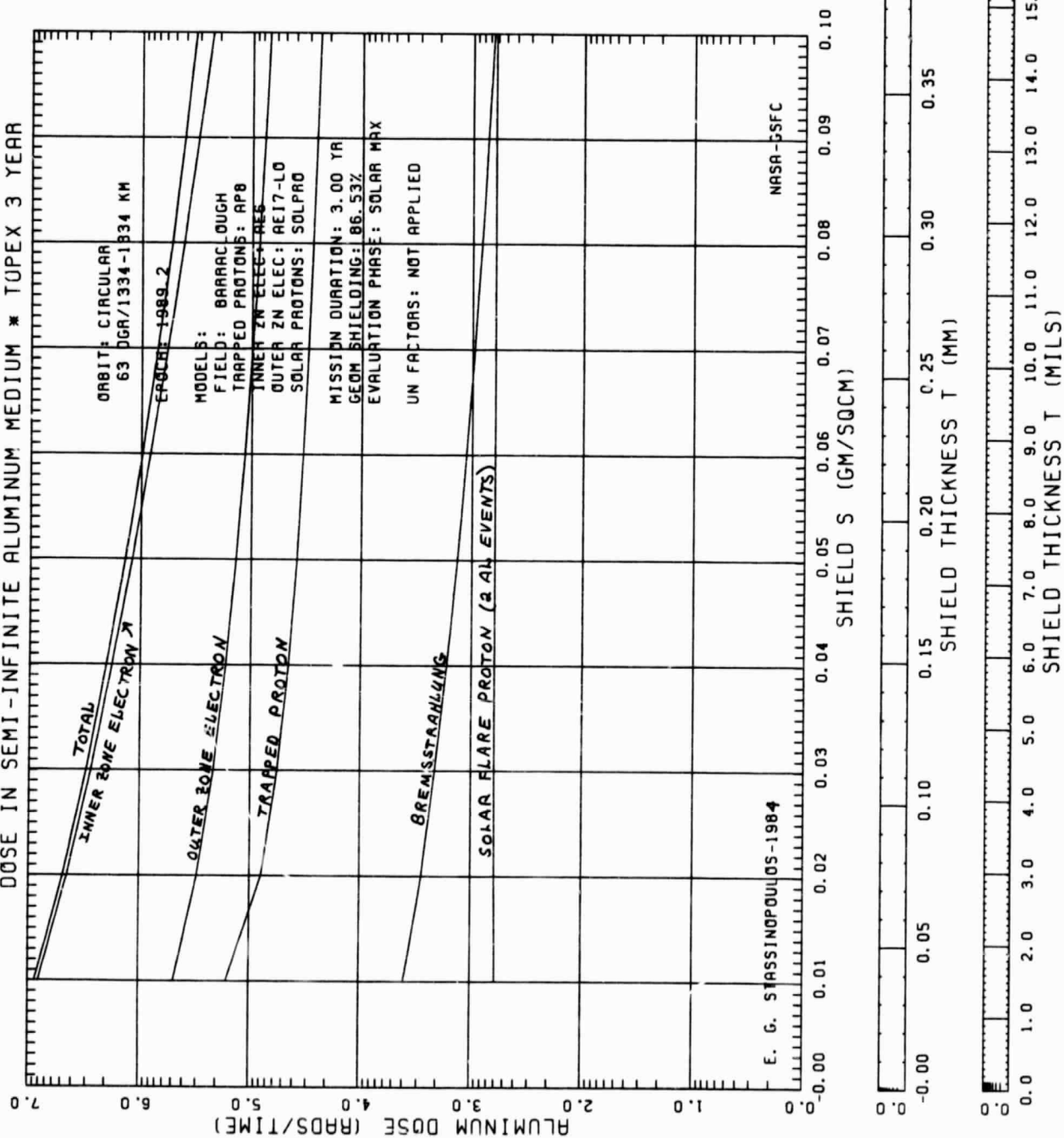


FIGURE 11

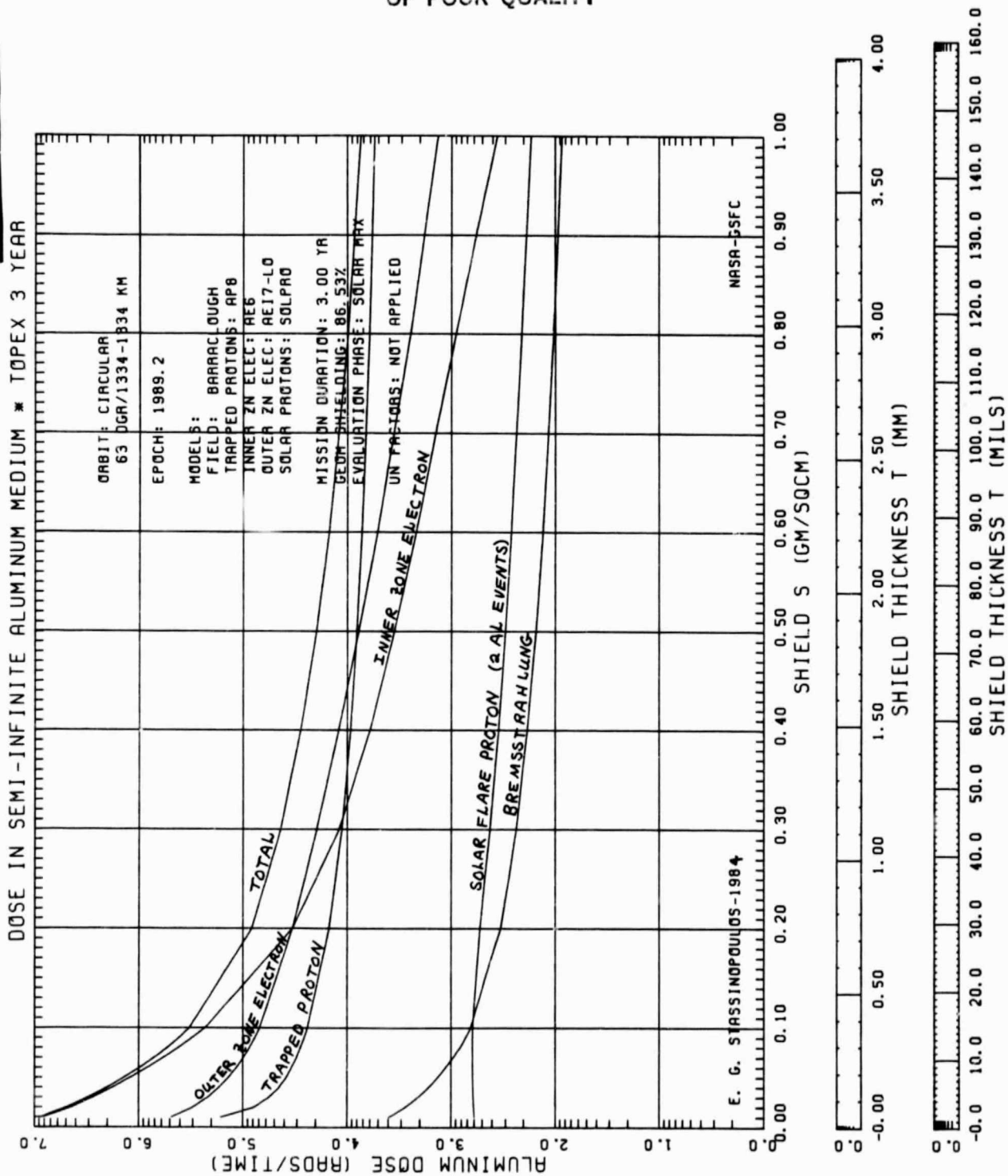


FIGURE 12

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DOSE IN SEMI-INFINITE ALUMINUM MEDIUM * TOPEX 3 YEAR

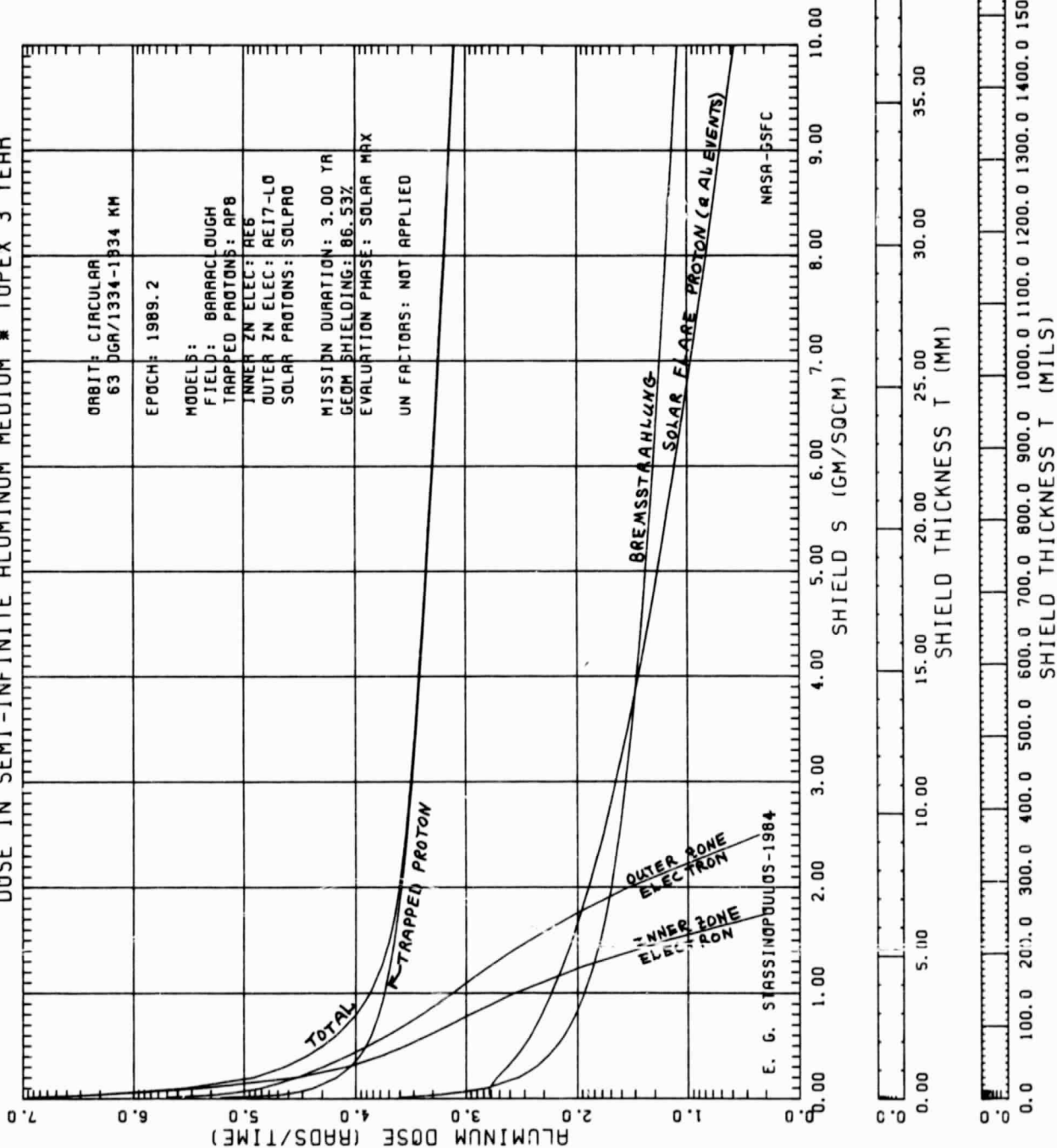


FIGURE 13

DOSE AT CENTER OF ALUMINUM SPHERES ** TOPEX 3 YEAR

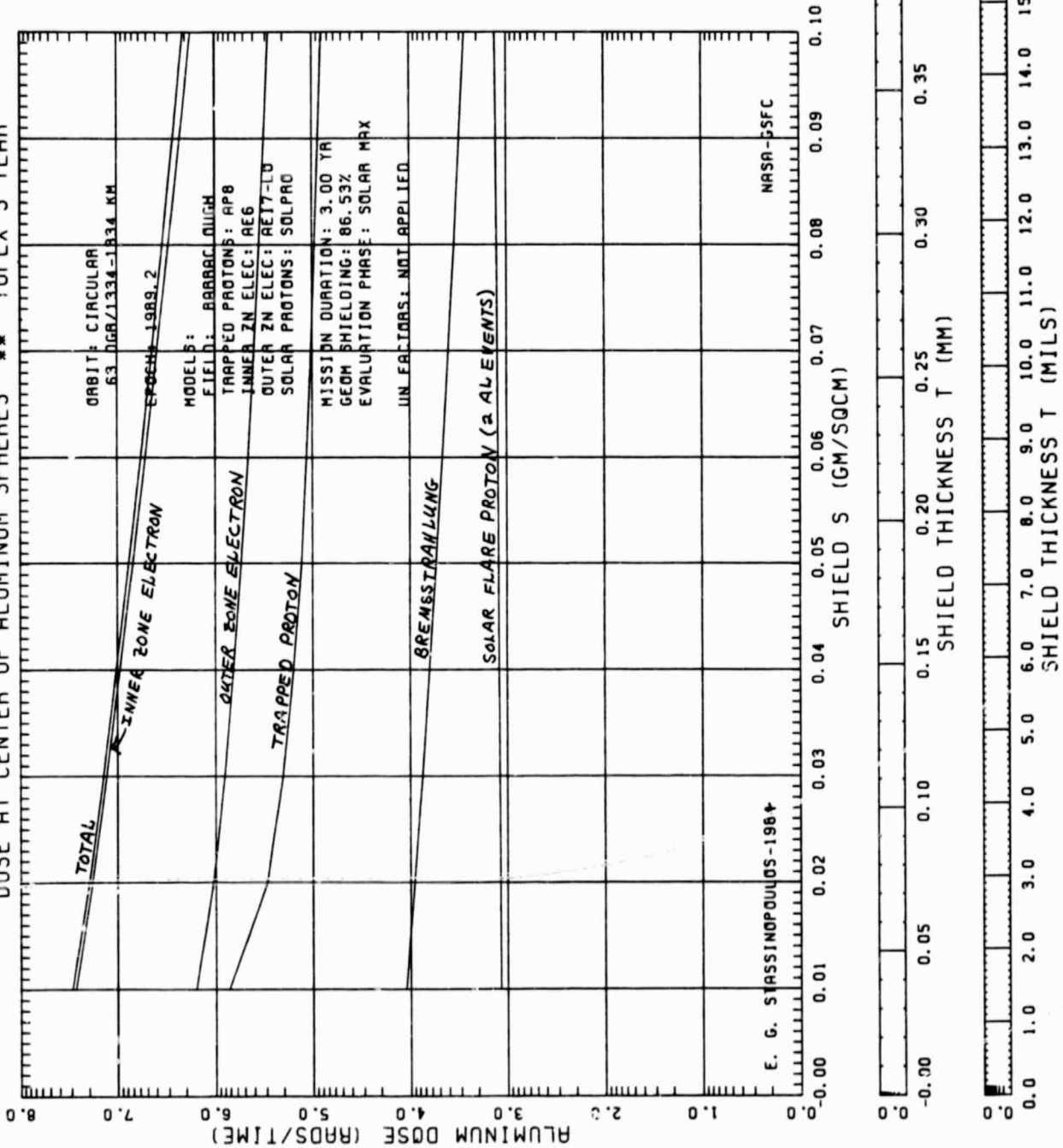


FIGURE 14

DOSE AT CENTER OF ALUMINUM SPHERES ** TOPEX 3 YEAR

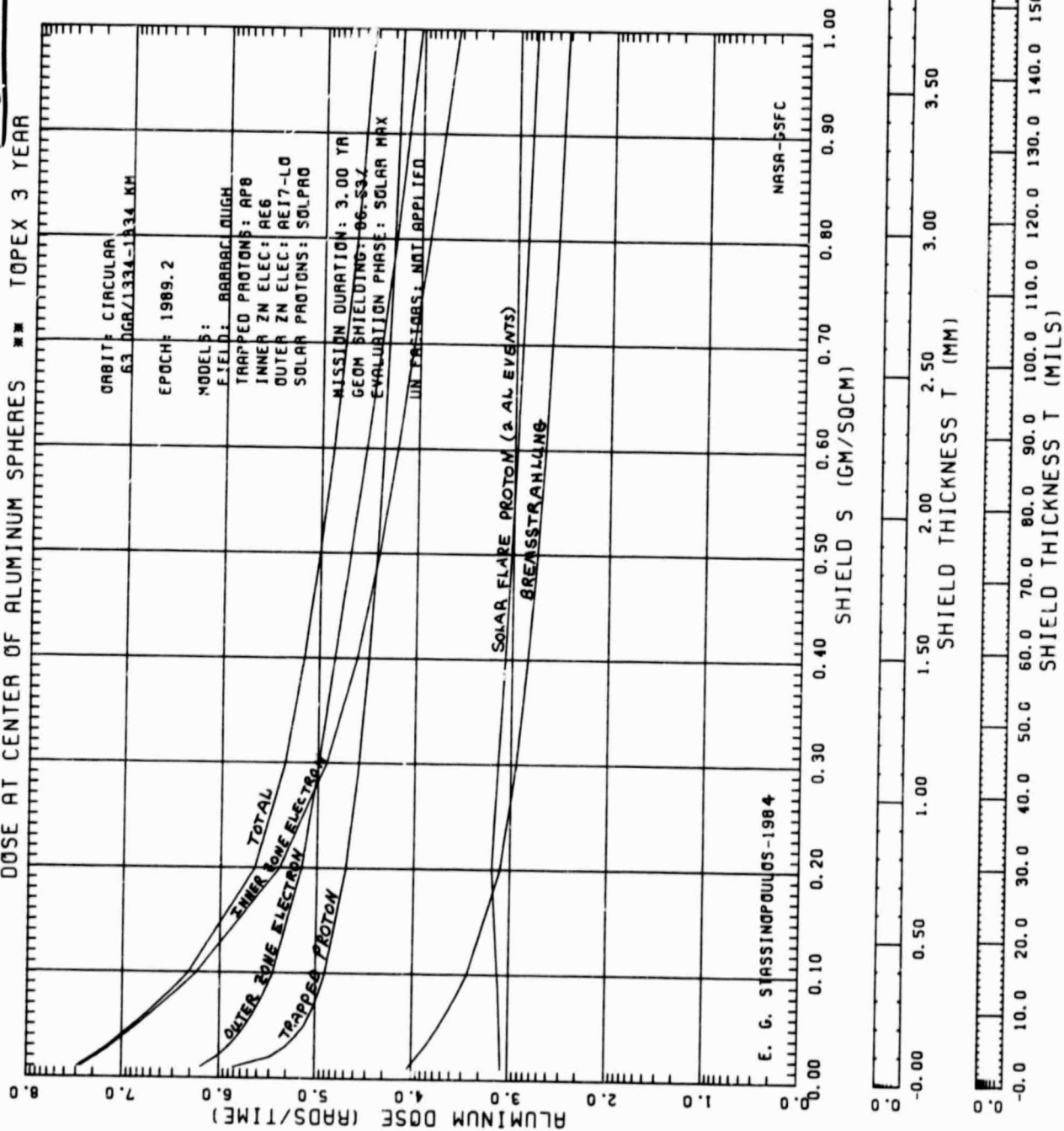
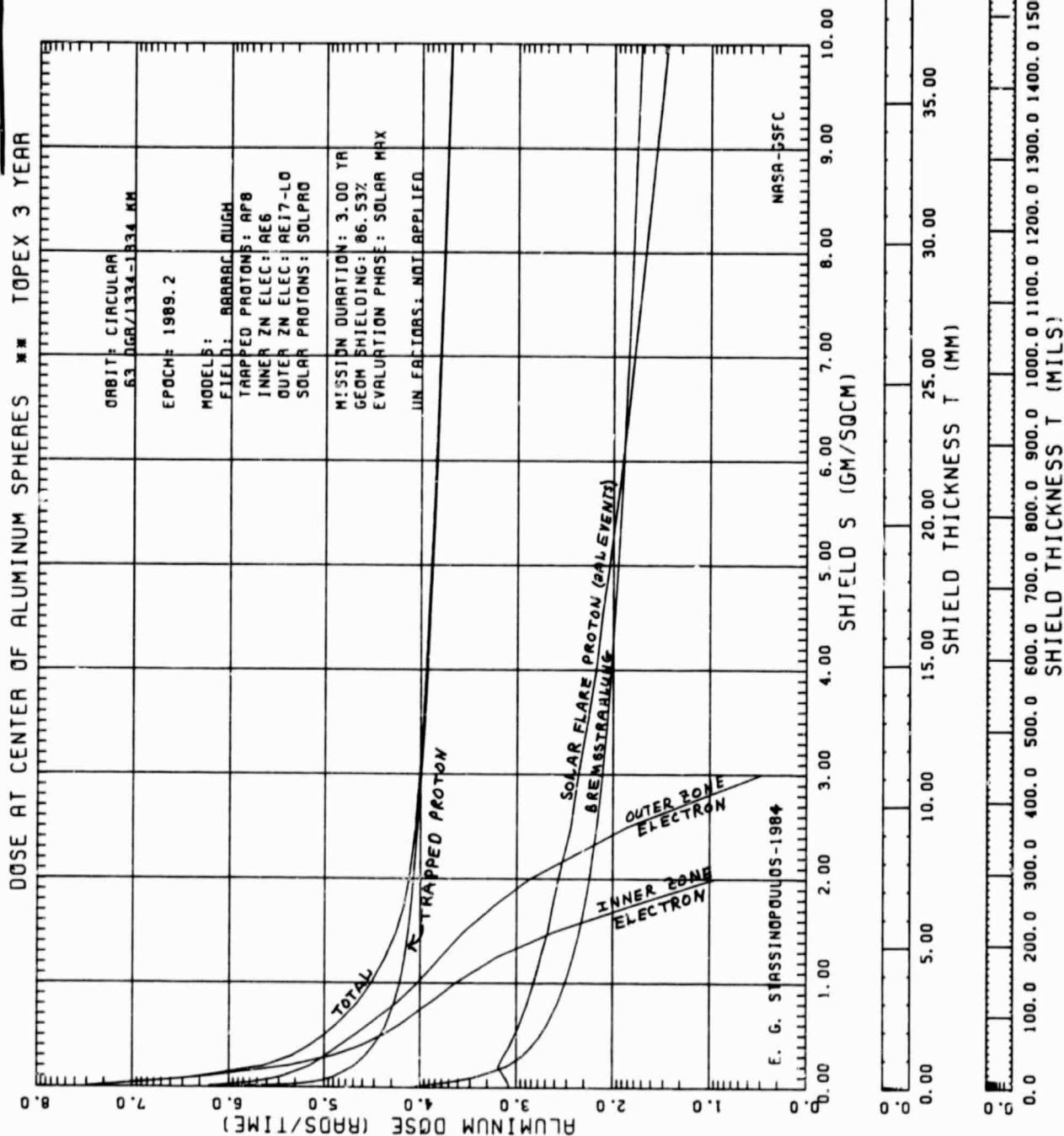
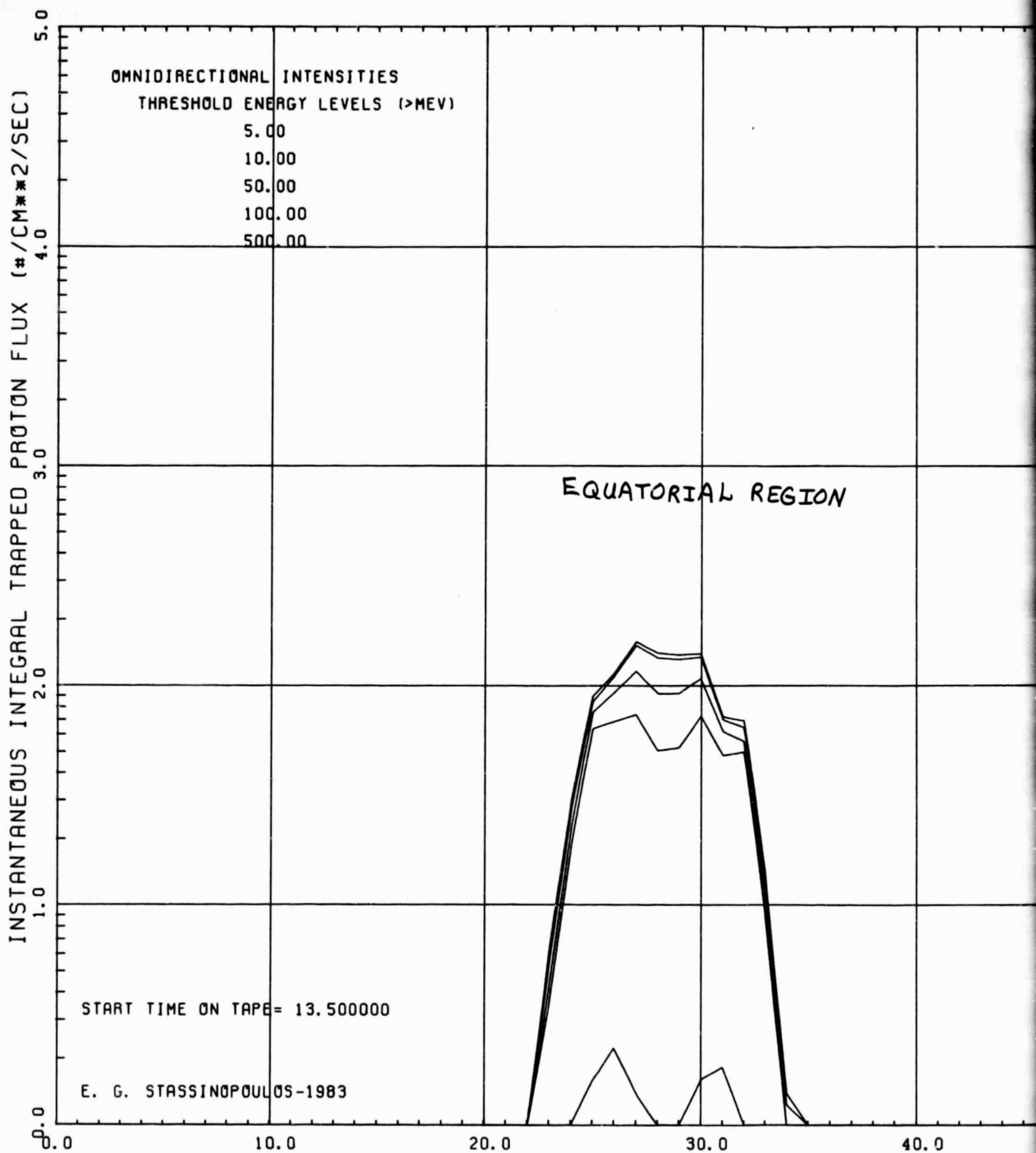


FIGURE 15



ORIGINAL PAGE 19
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FOLDOUT FRAME

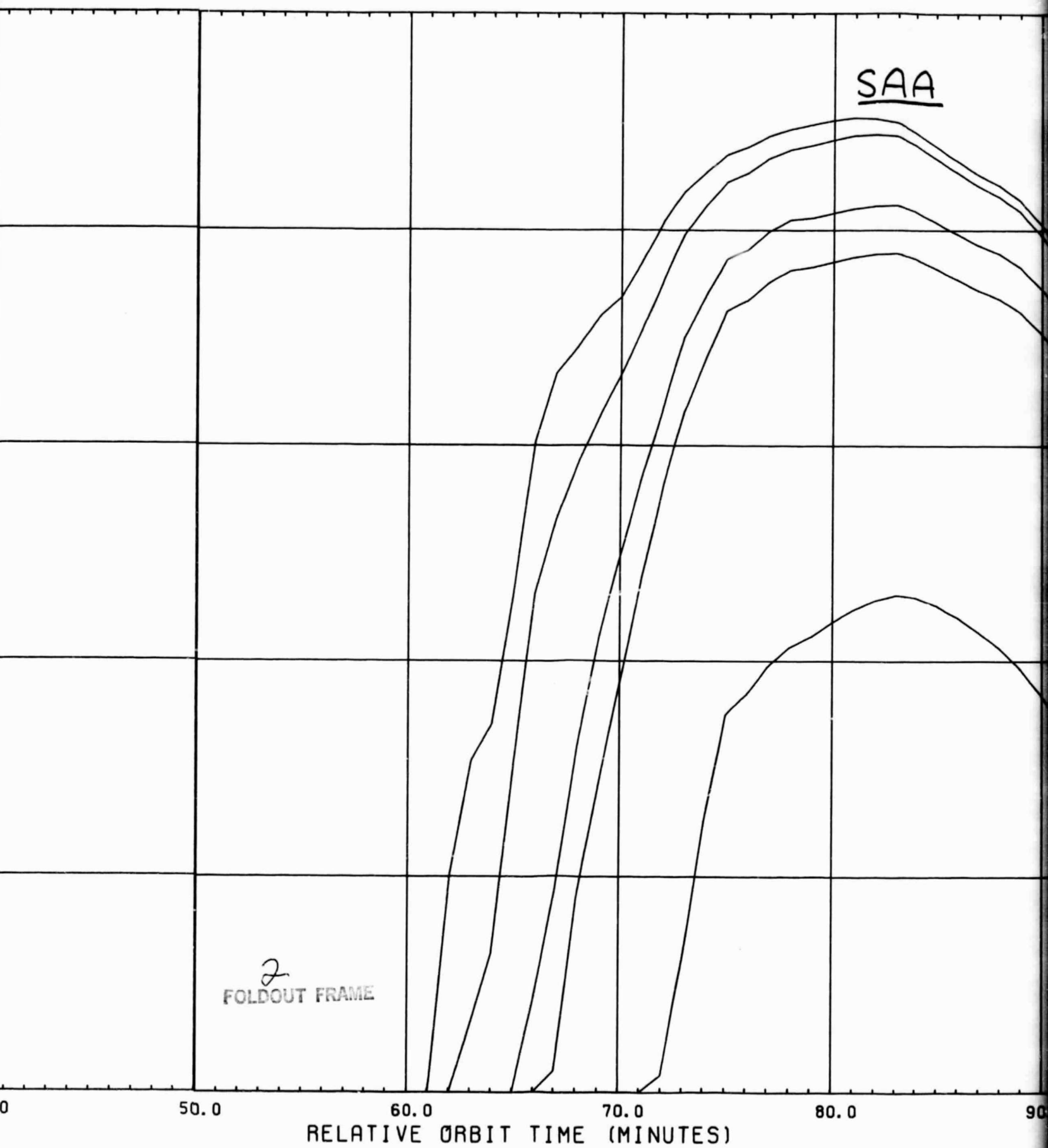
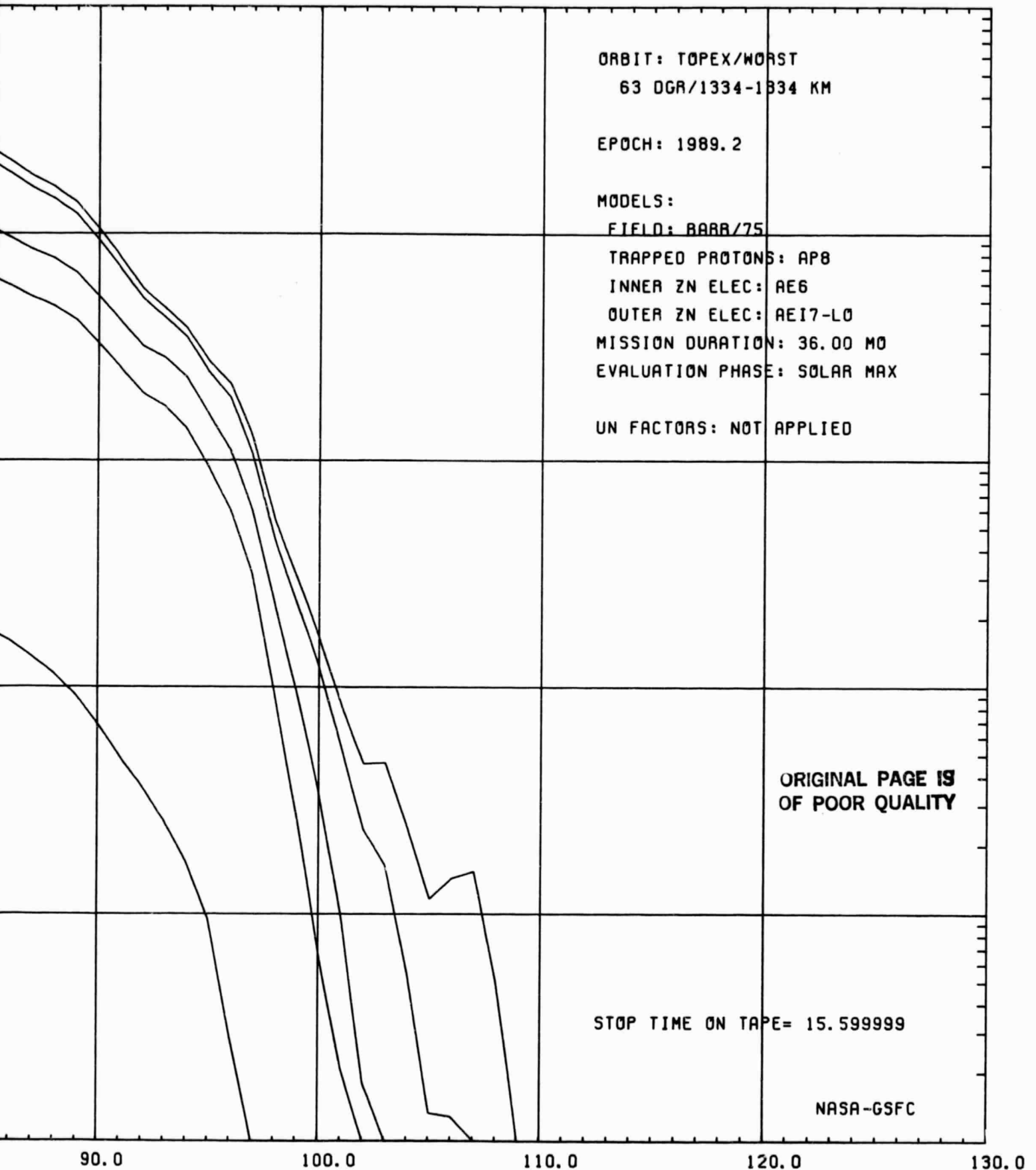
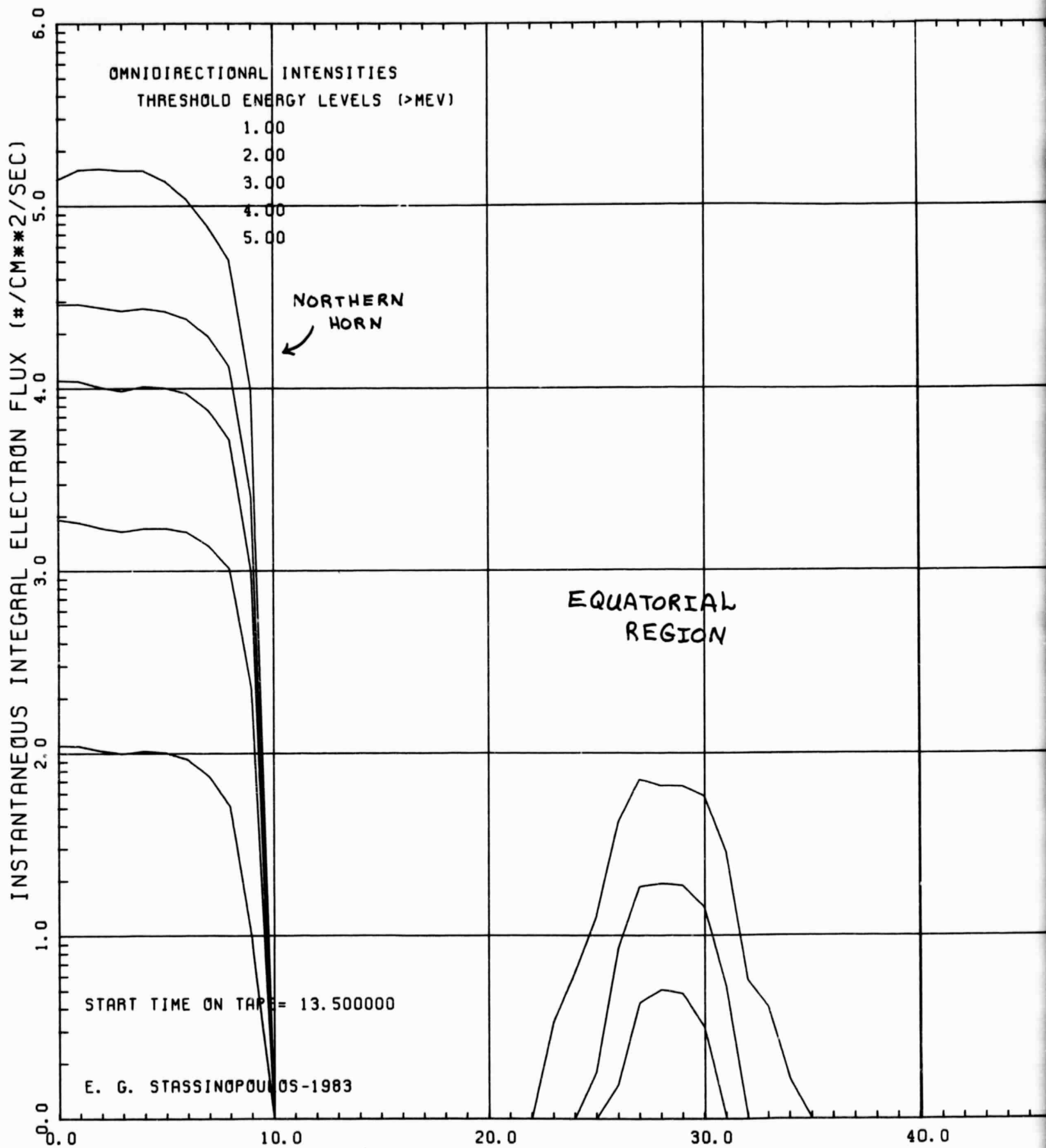


FIGURE 16



3 FOLDOUT FRAME



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FOLDOUT FRAME

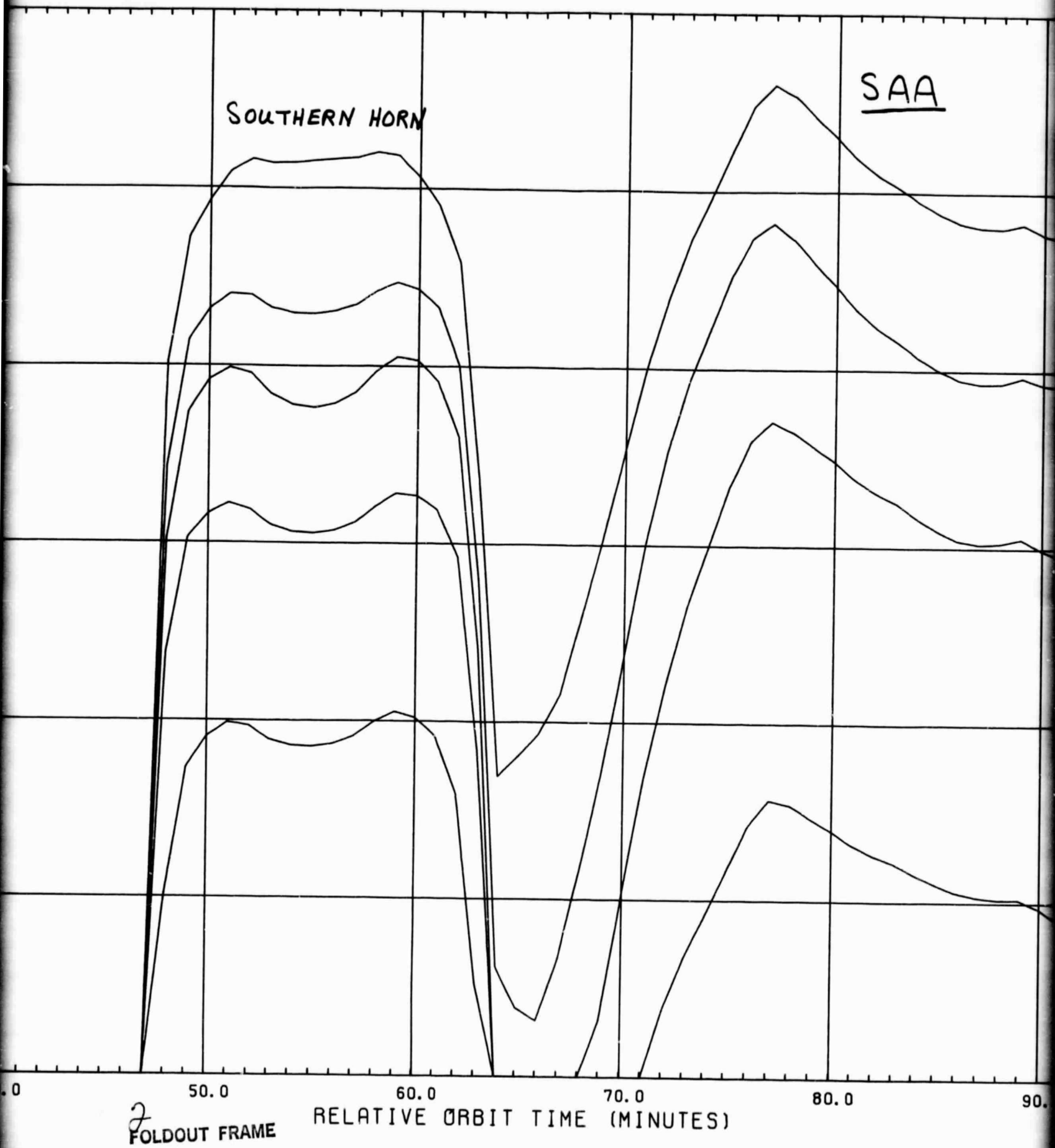
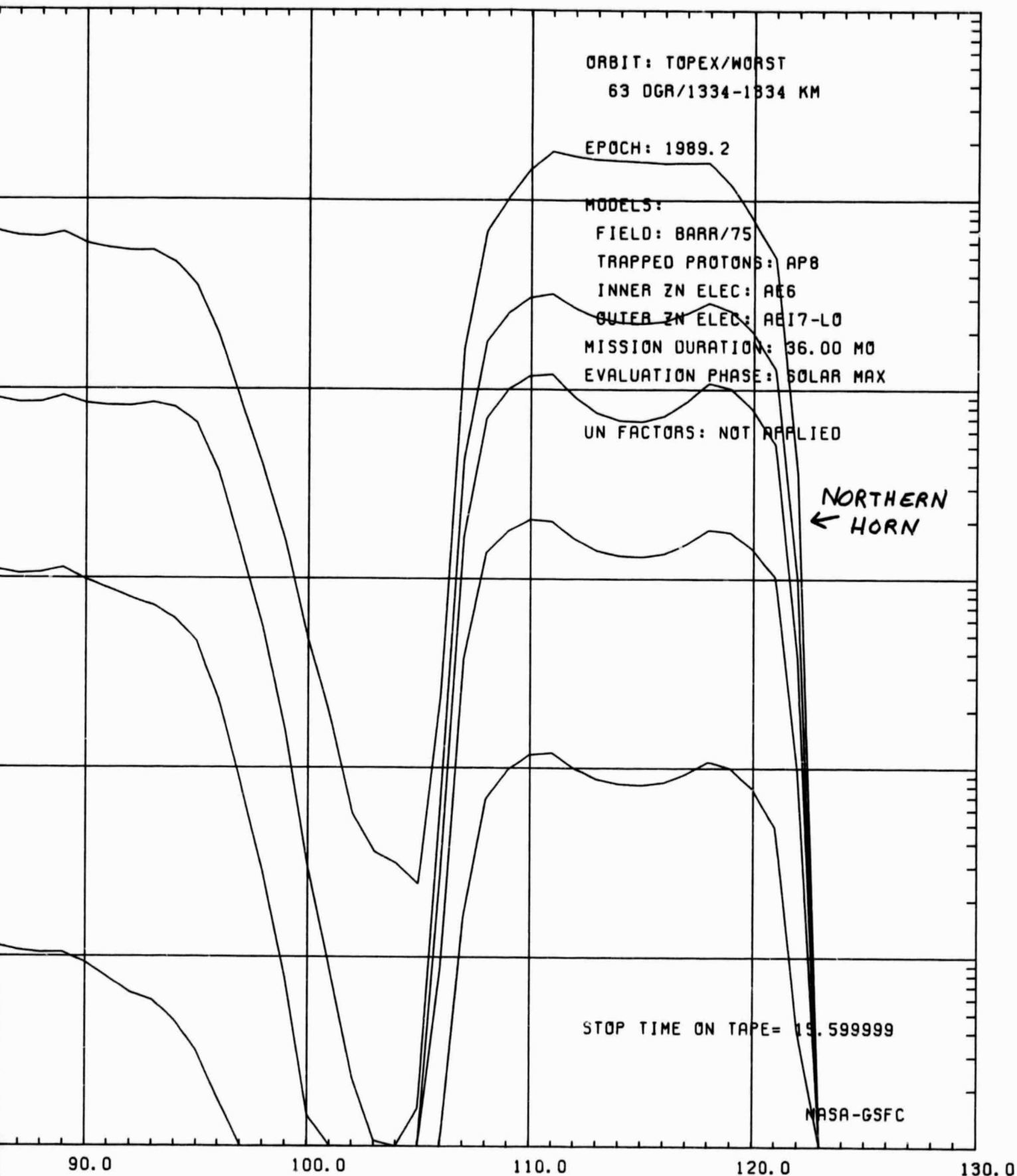


FIGURE 17

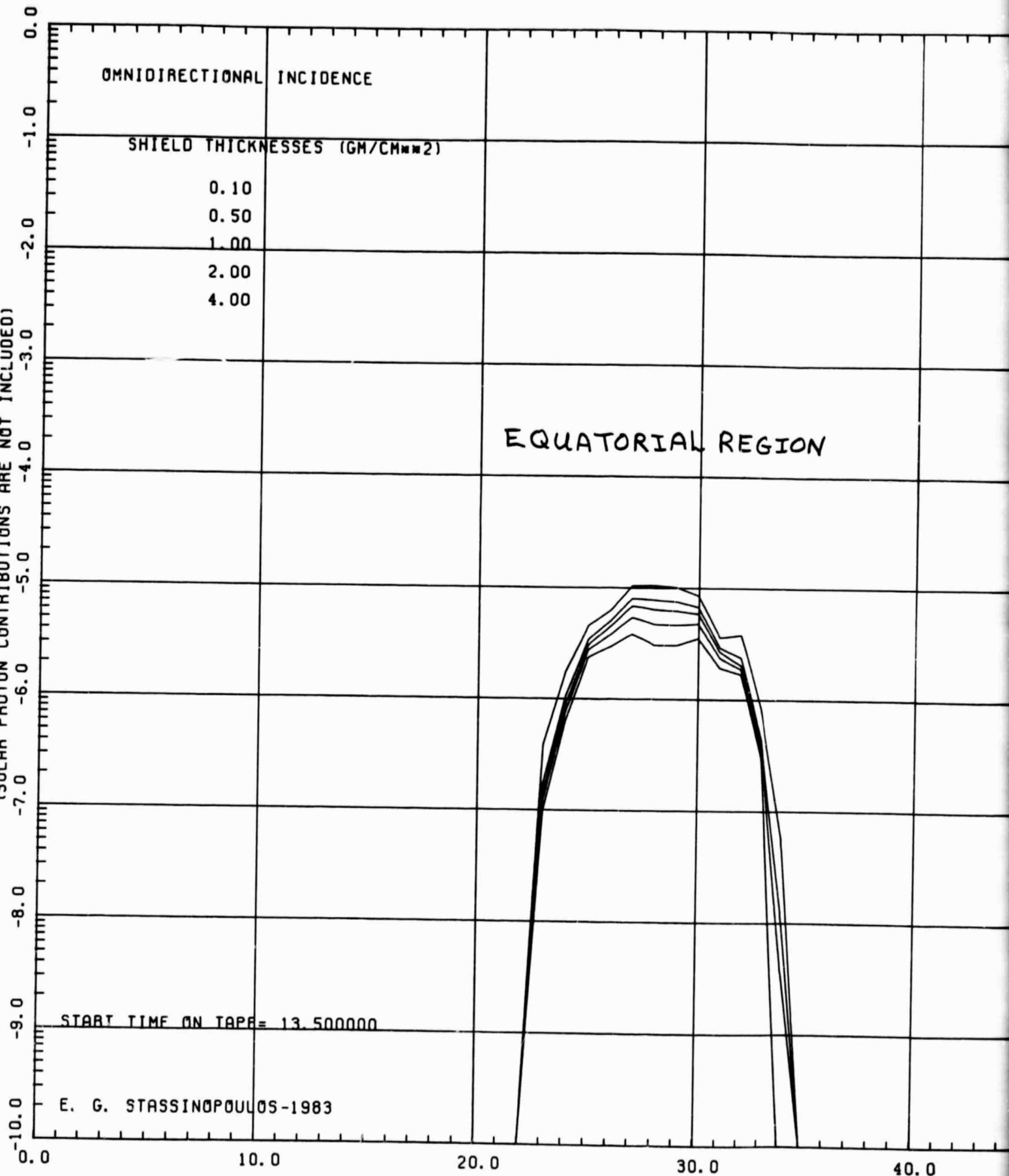


3 FOLDOUT FRAME

ORIGINAL PAGE 18
OF POOR QUALITY

INSTANTANEOUS ALUMINUM PROTON DOSE (RADS/SEC)

(SOLAR PROTON CONTRIBUTIONS ARE NOT INCLUDED)



FOLDOUT FRAME

DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB SHIELDS

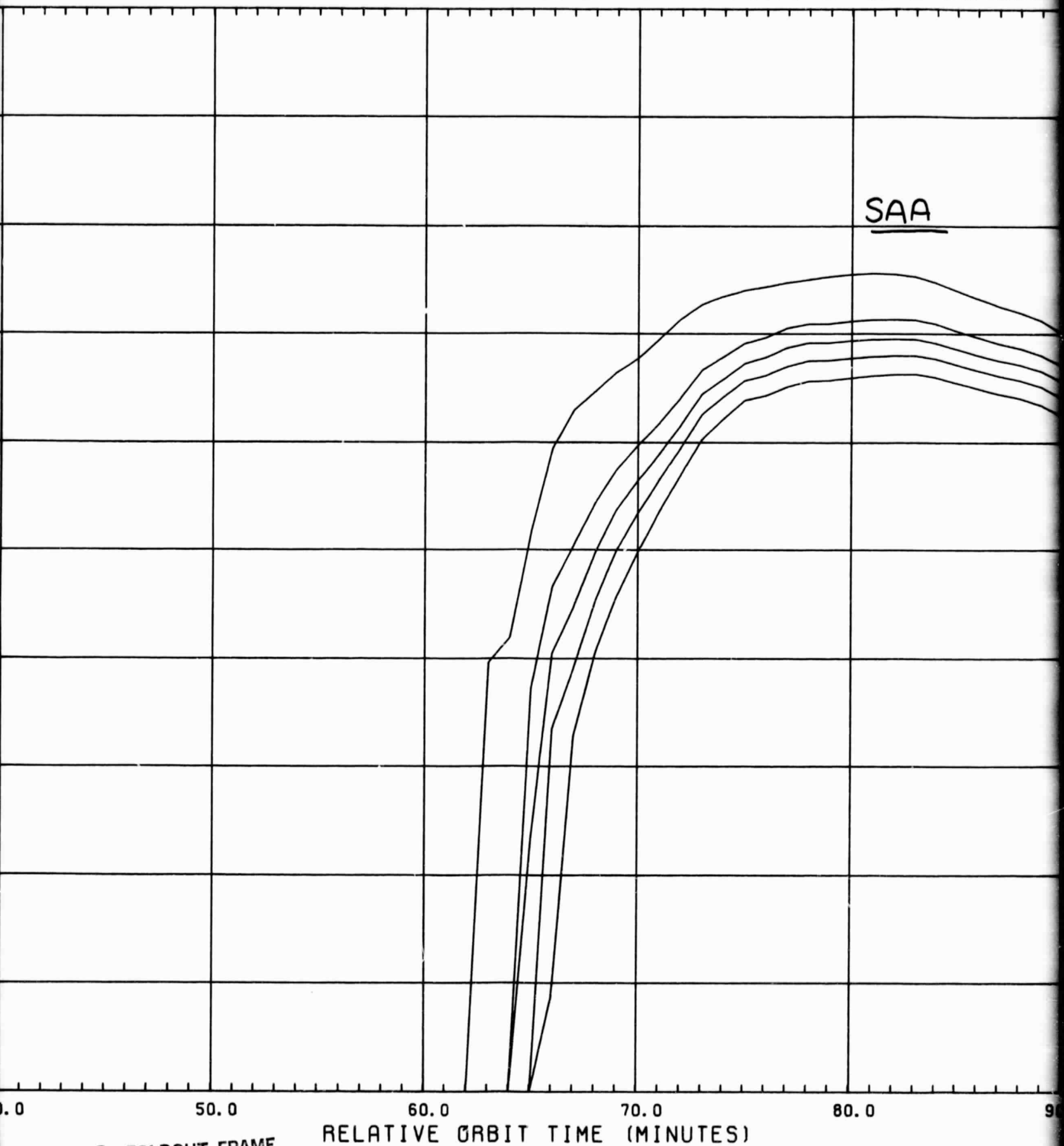
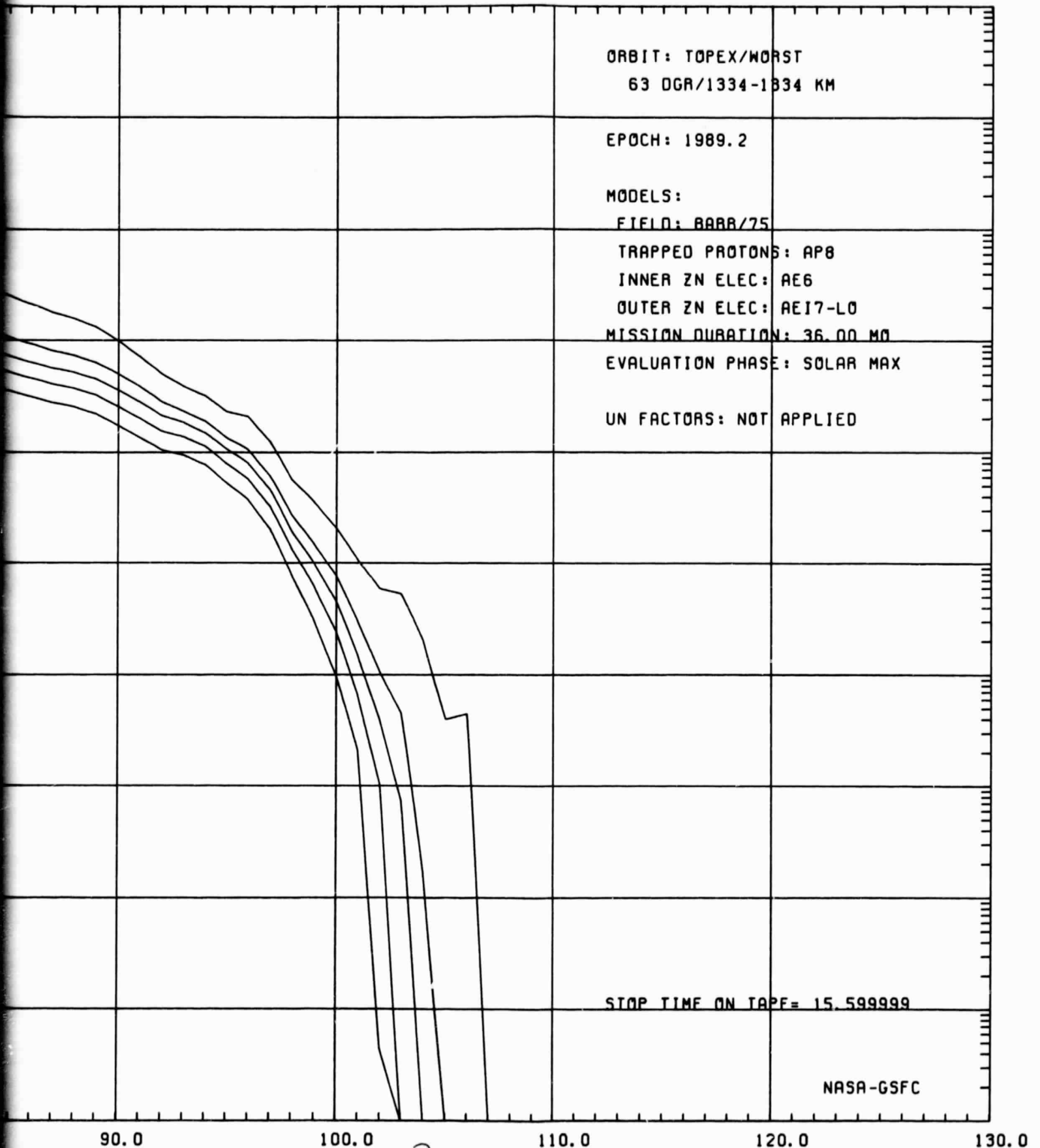


FIGURE-18

HIELDS

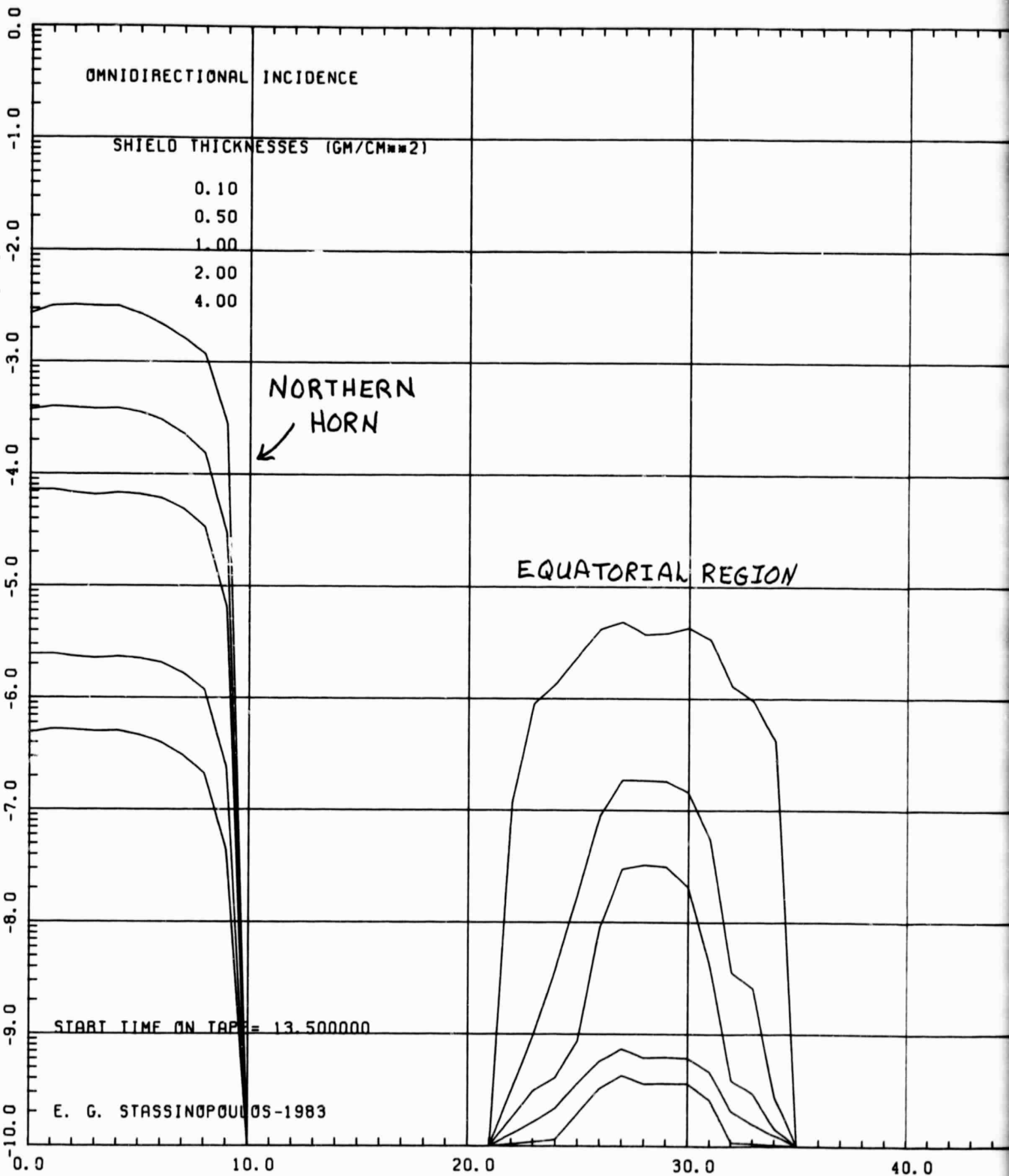


FOLDOUT FRAME

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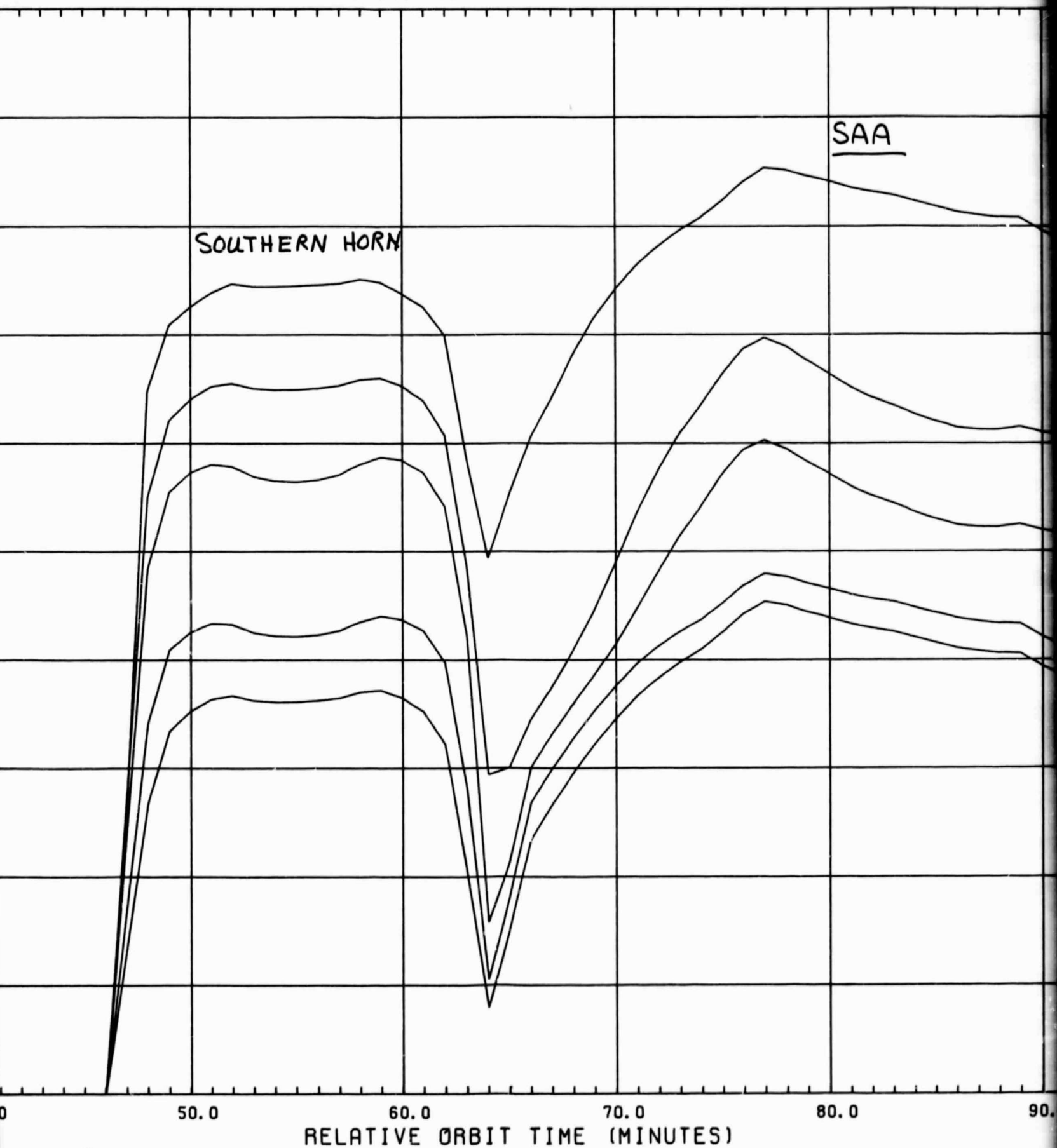
INSTANTANEOUS ALUMINUM ELECTRON DOSE (RADS/SEC)

(PLOTTED DOSE VALUES INCLUDE BREMSSTRAHLUNG CONTRIBUTIONS)

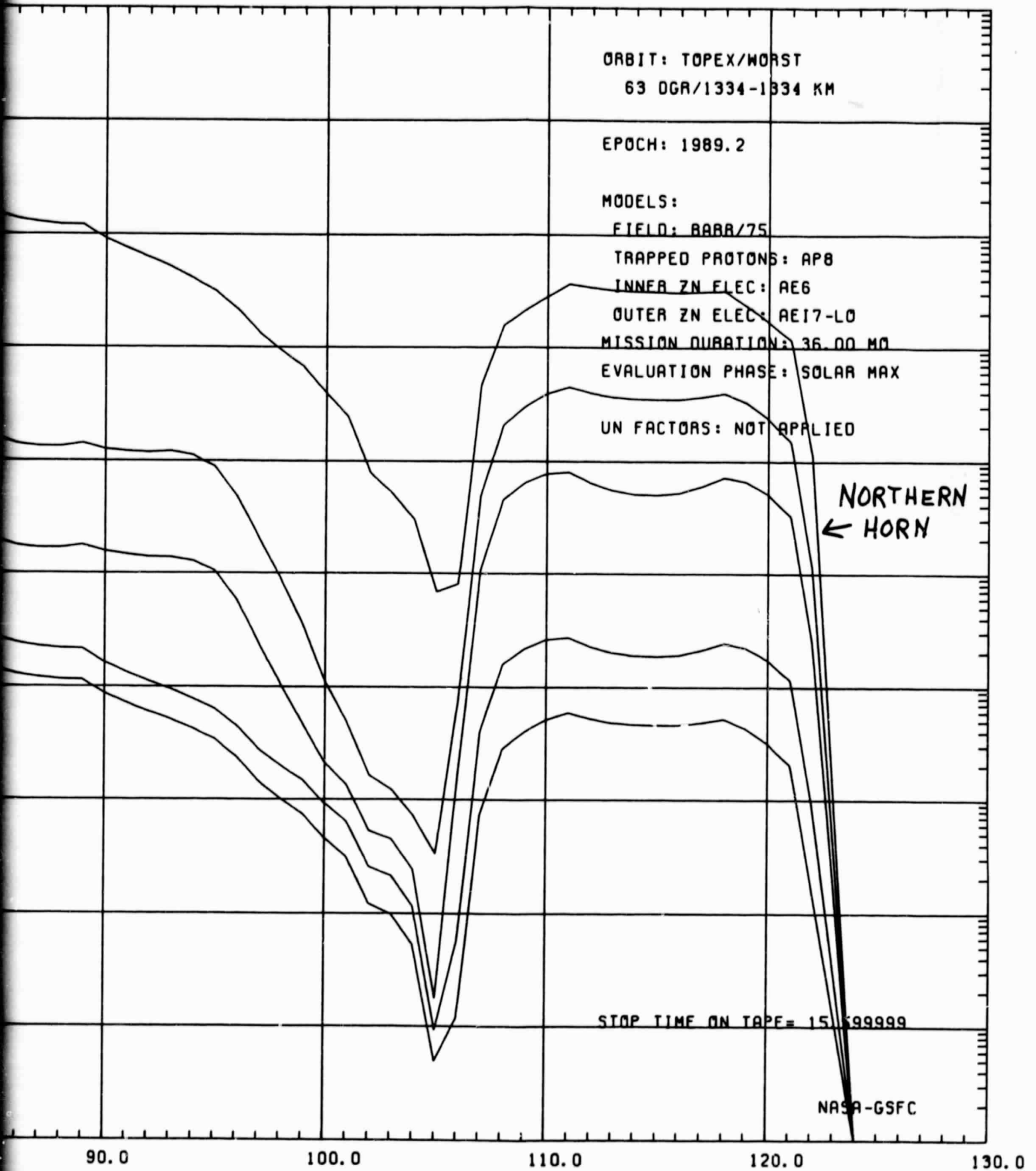


FOLDOUT FRAME

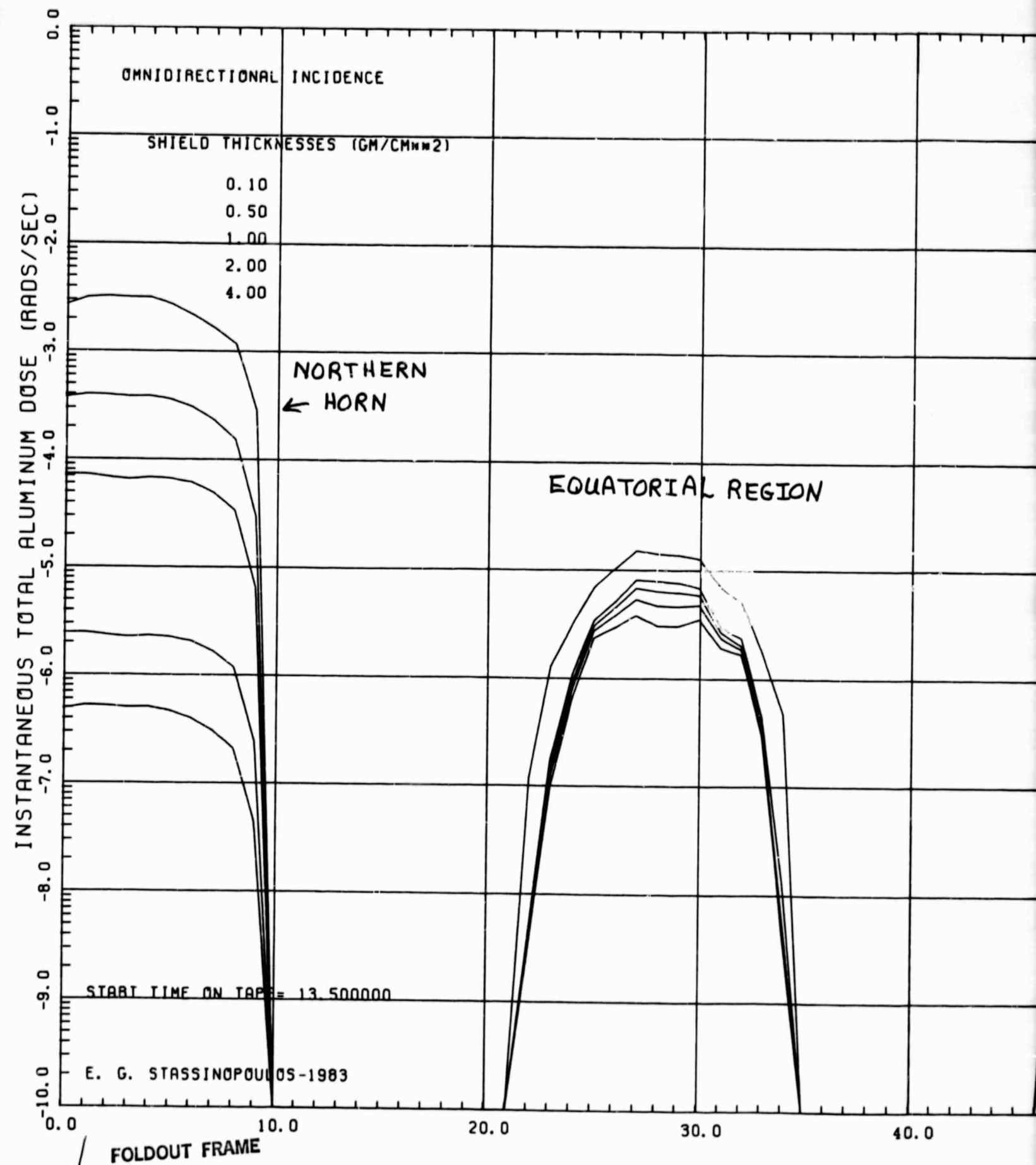
ORIGINAL PAGE 19
OF POOR QUALITY
DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB SHIELDS



IELDS



ORIGINAL PAGE IS
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DOSE AT TRANSMISSION SURFACE OF FINITE ALUMINUM SLAB SHIELDS

ORIGINAL PAGE IS
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SAA

SOUTHERN
HORN

50.0

60.0

70.0

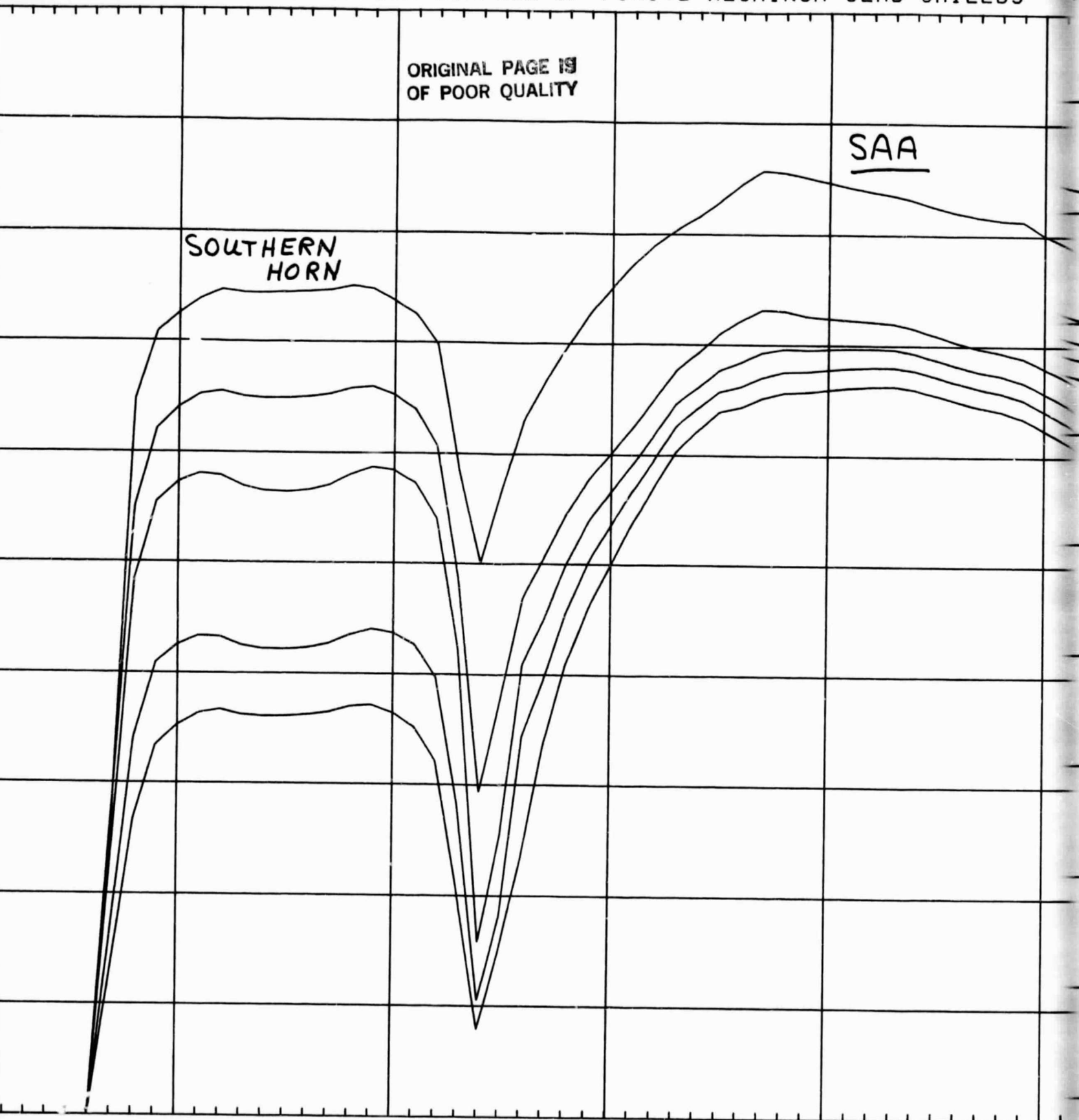
80.0

90.0

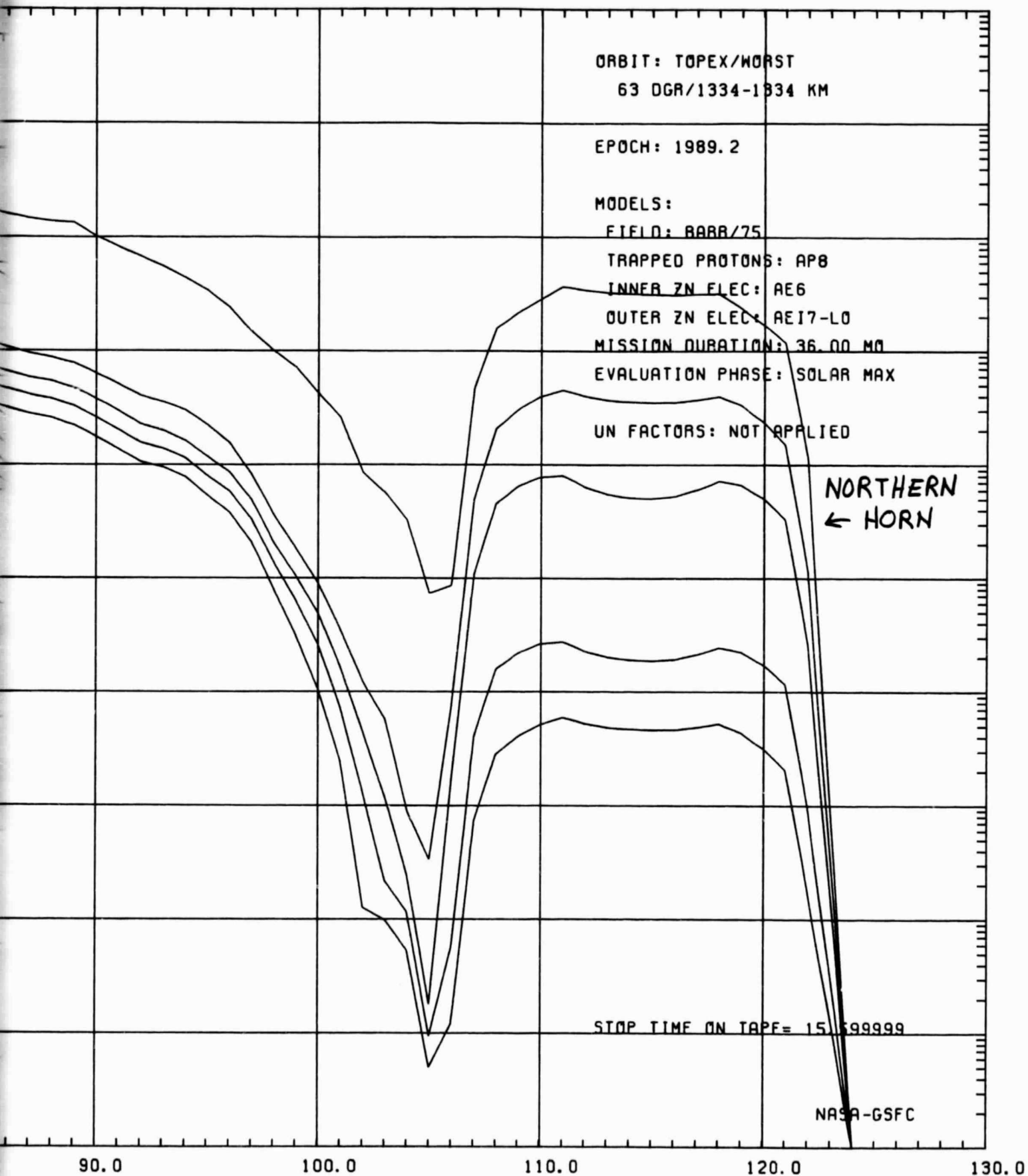
RELATIVE ORBIT TIME (MINUTES)

FOLDOUT FRAME

2



IELDS



ORIGINAL PAGE IS
OF POOR QUALITY

INSTANTANEOUS ALUMINUM PROTON DOSE (RADS/SEC)

(SOLAR PROTON CONTRIBUTIONS ARE NOT INCLUDED)

OMNIDIRECTIONAL INCIDENCE

SHIELD THICKNESSES (GM/CM²)

0.10

0.50

1.00

2.00

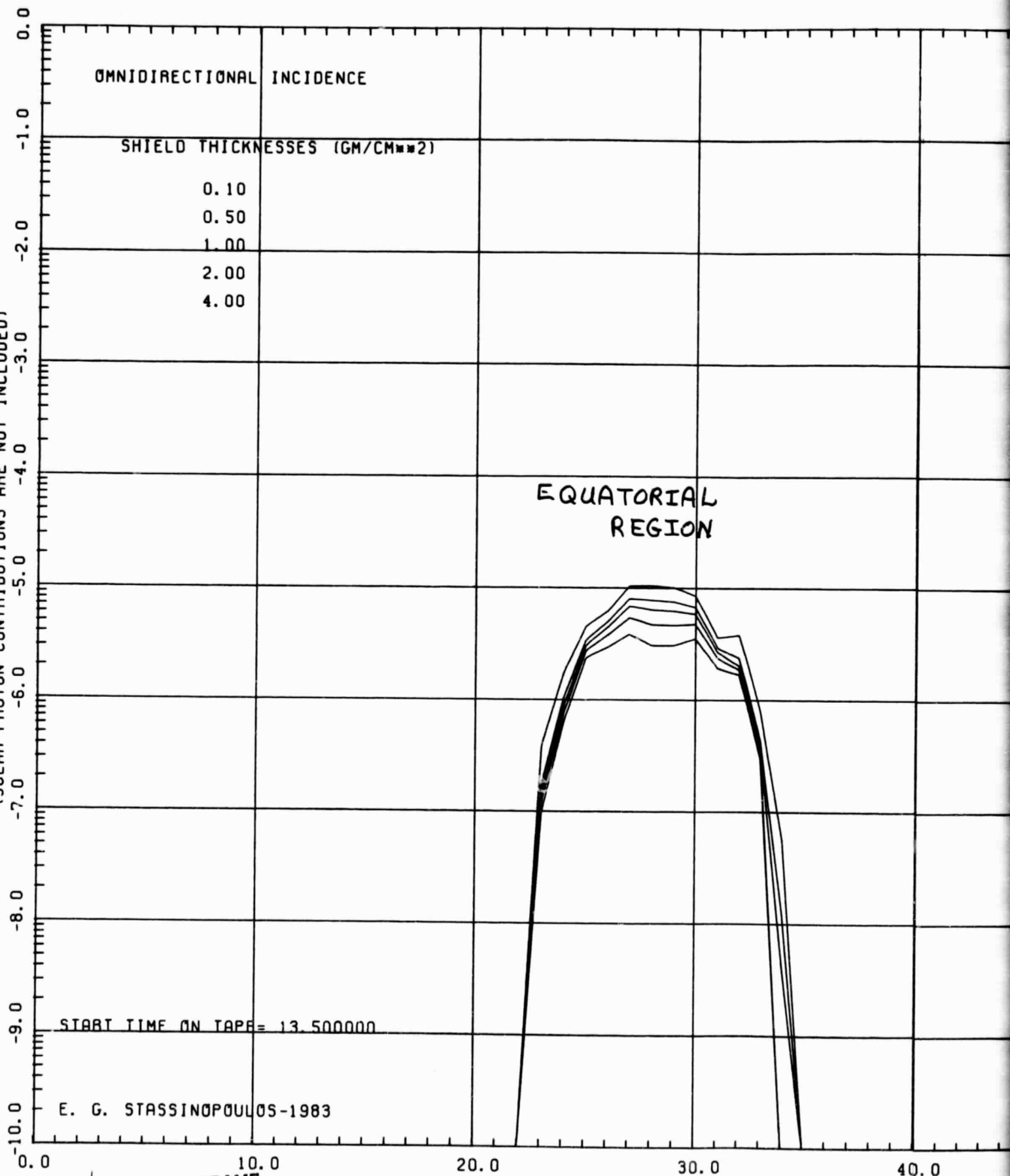
4.00

EQUATORIAL
REGION

START TIME ON TAPE = 13.500000

E. G. STASSINOPOULOS-1983

FOLDOUT FRAME



DOSE IN SEMI-INFINITE ALUMINUM MEDIUM

ORIGINAL PAGE IS
OF POOR QUALITY

SAA

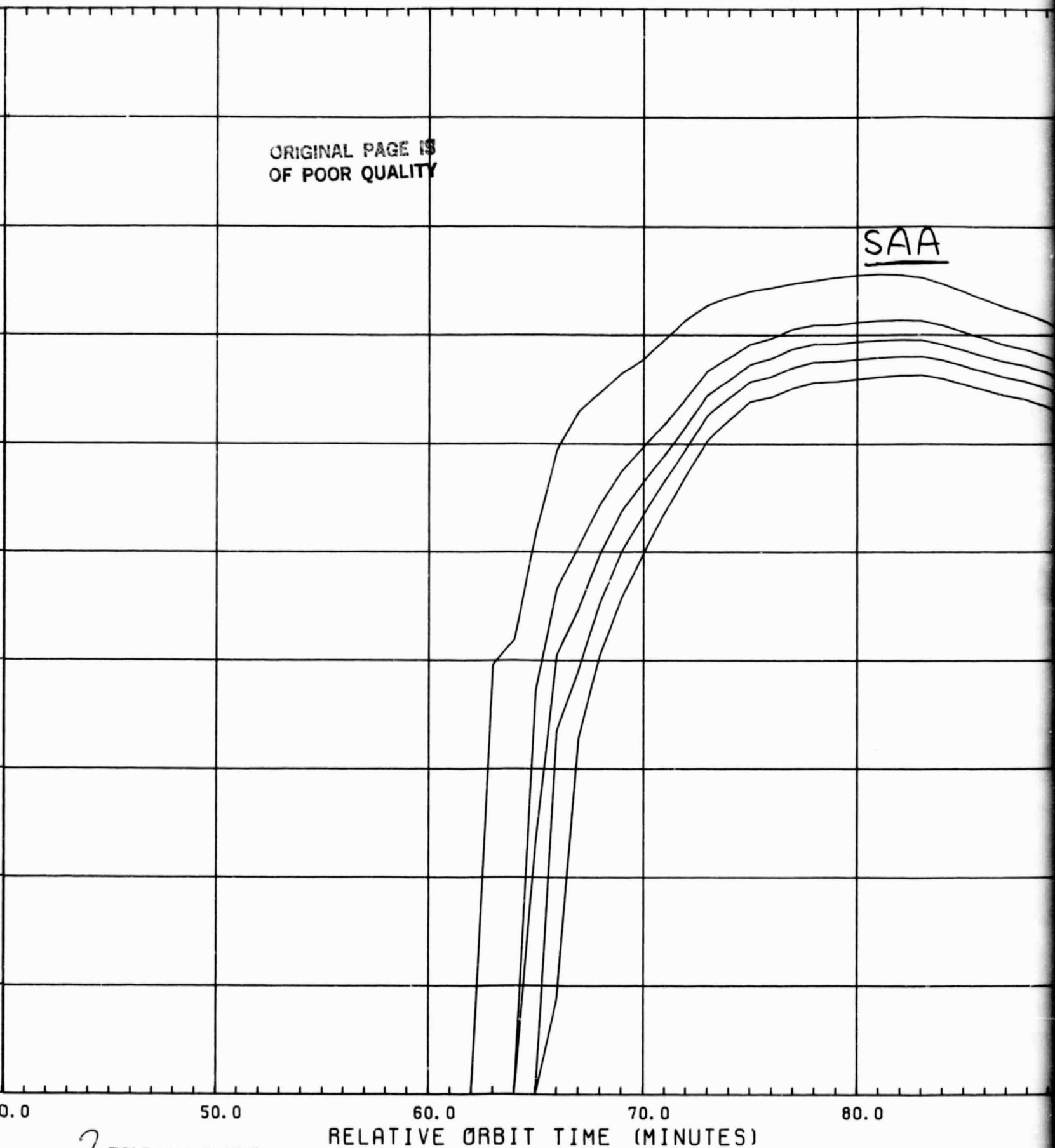
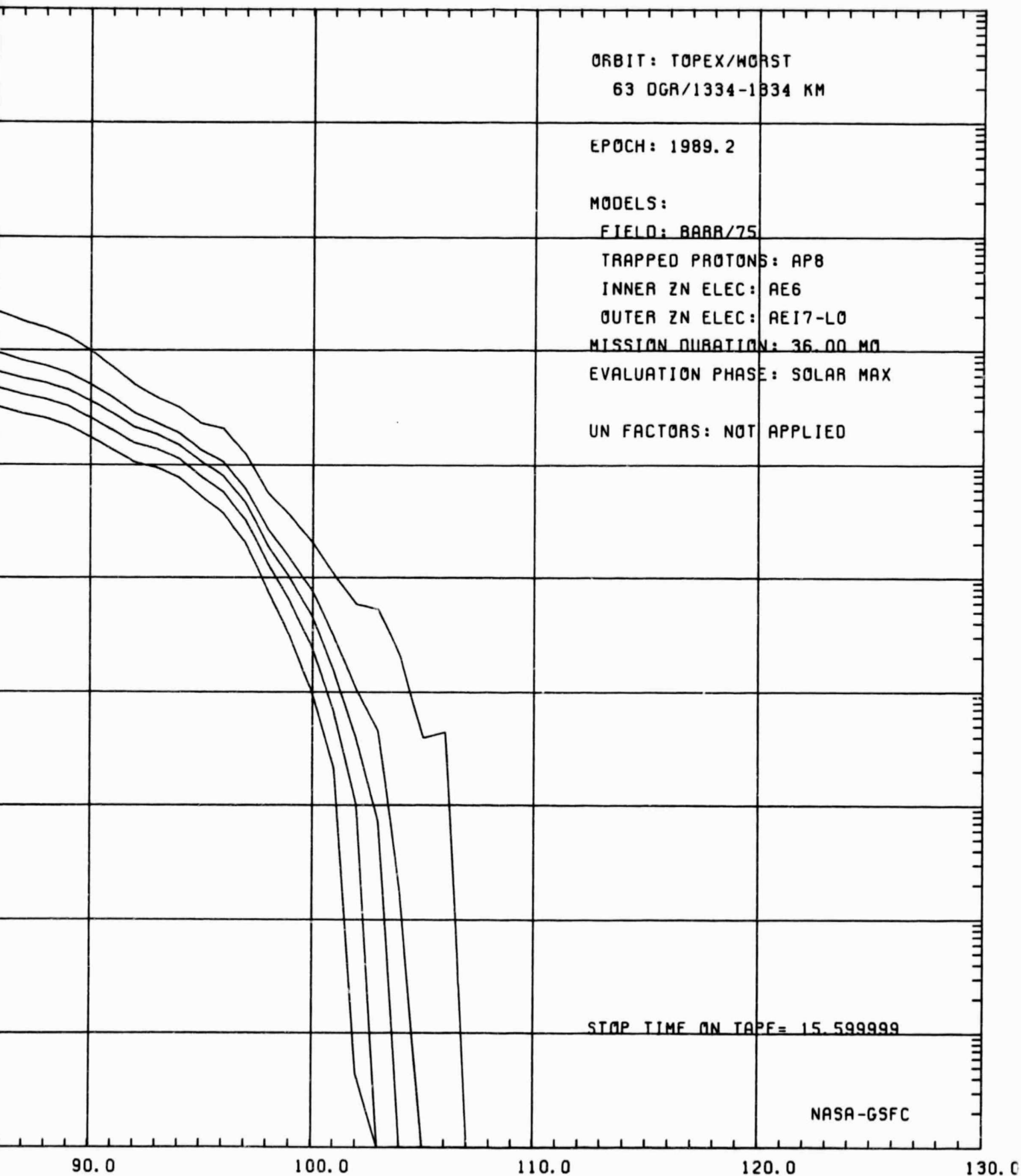


FIGURE 21

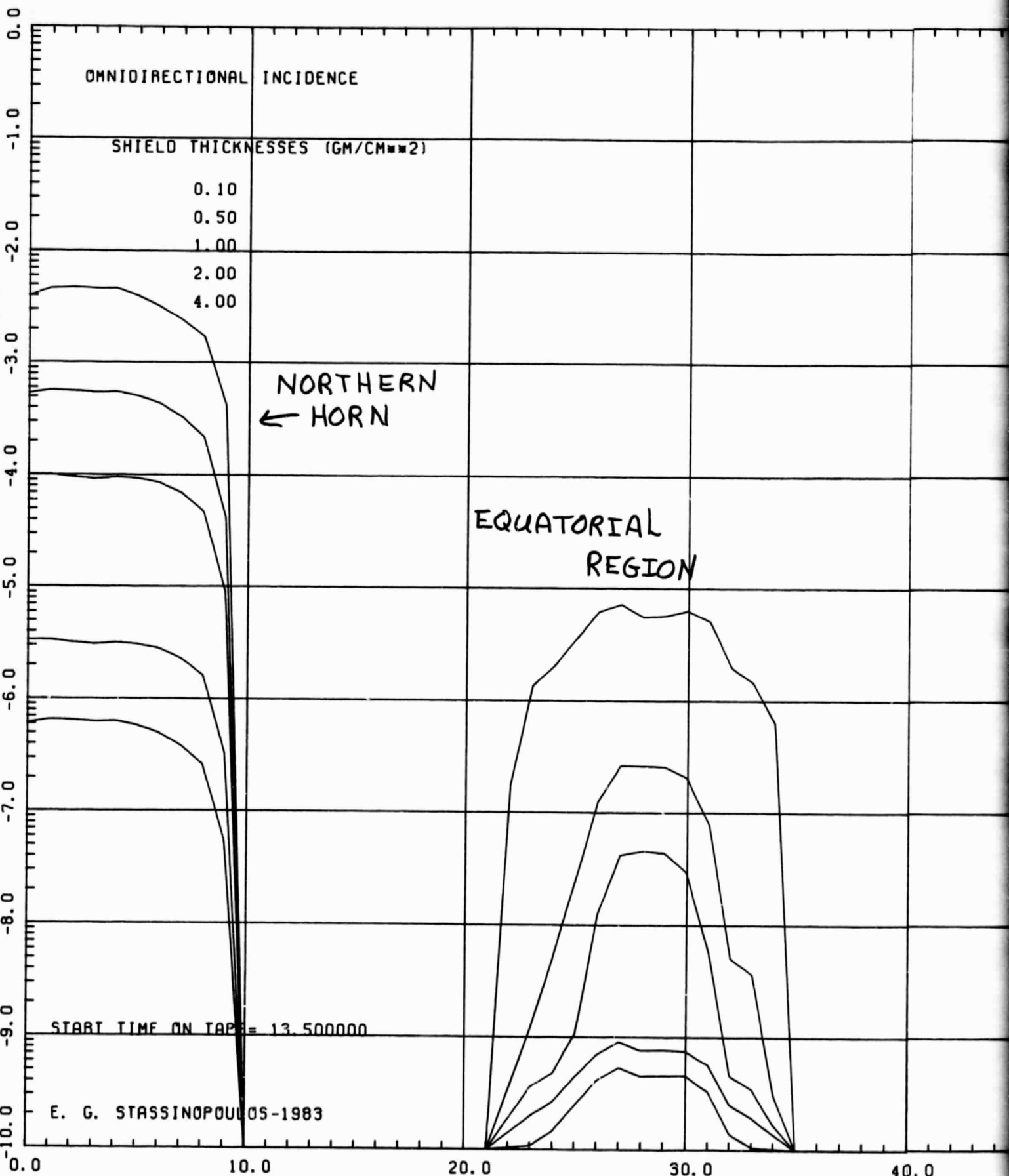


3 FOLDOUT FRAME

ORIGINAL PAGE IS
OF POOR QUALITY

INSTANTANEOUS ALUMINUM ELECTRON DOSE (RADS/SEC)

(PLOTTED DOSE VALUES INCLUDE BREMSSTRAHLUNG CONTRIBUTIONS)



FOLDOUT FRAME

DOSE IN SEMI-INFINITE ALUMINUM MEDIUM

ORIGINAL PAGE IS
OF POOR QUALITY

SOUTHERN
HORN

SAA

50.0

60.0

70.0

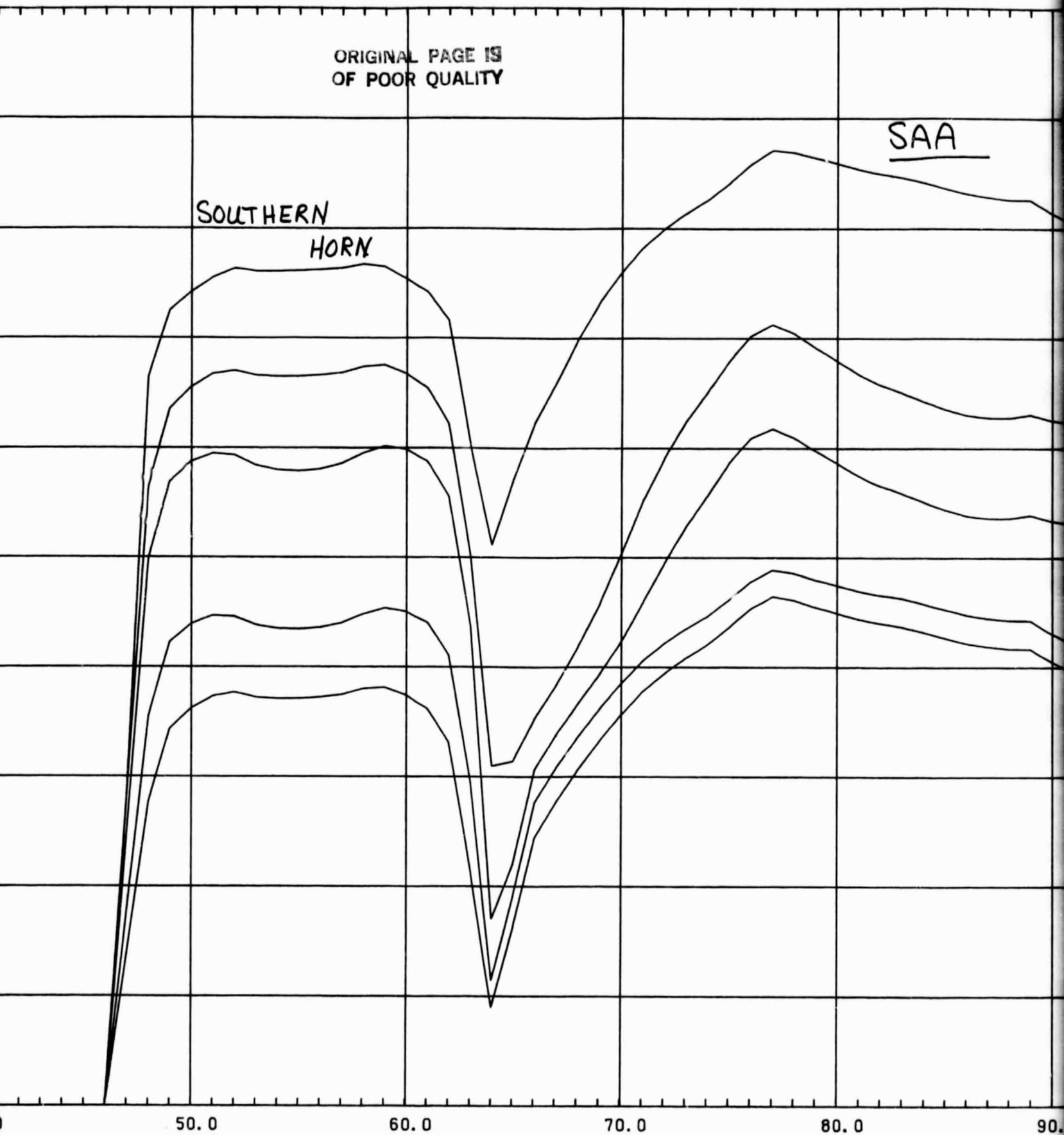
80.0

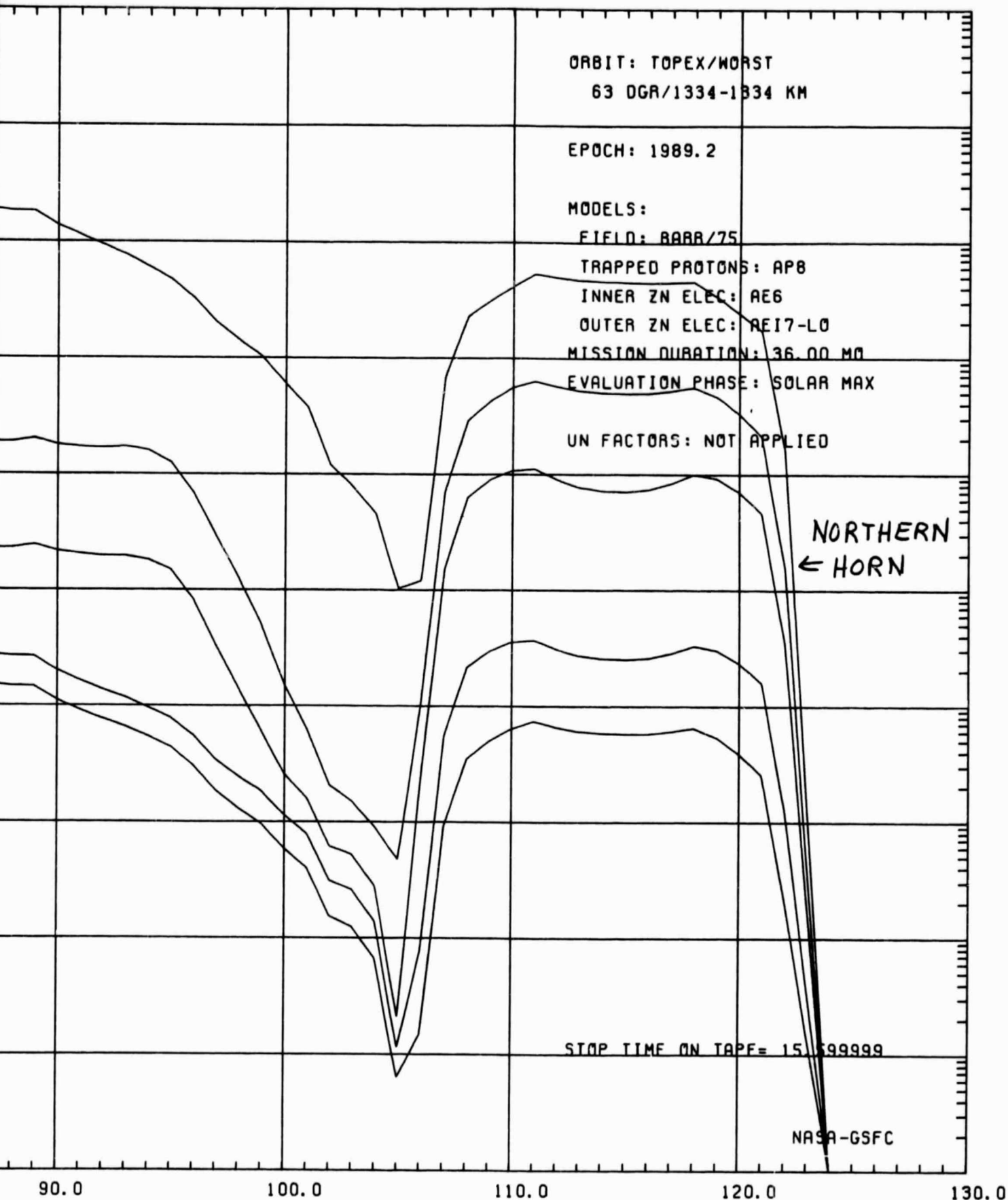
90.0

RELATIVE ORBIT TIME (MINUTES)

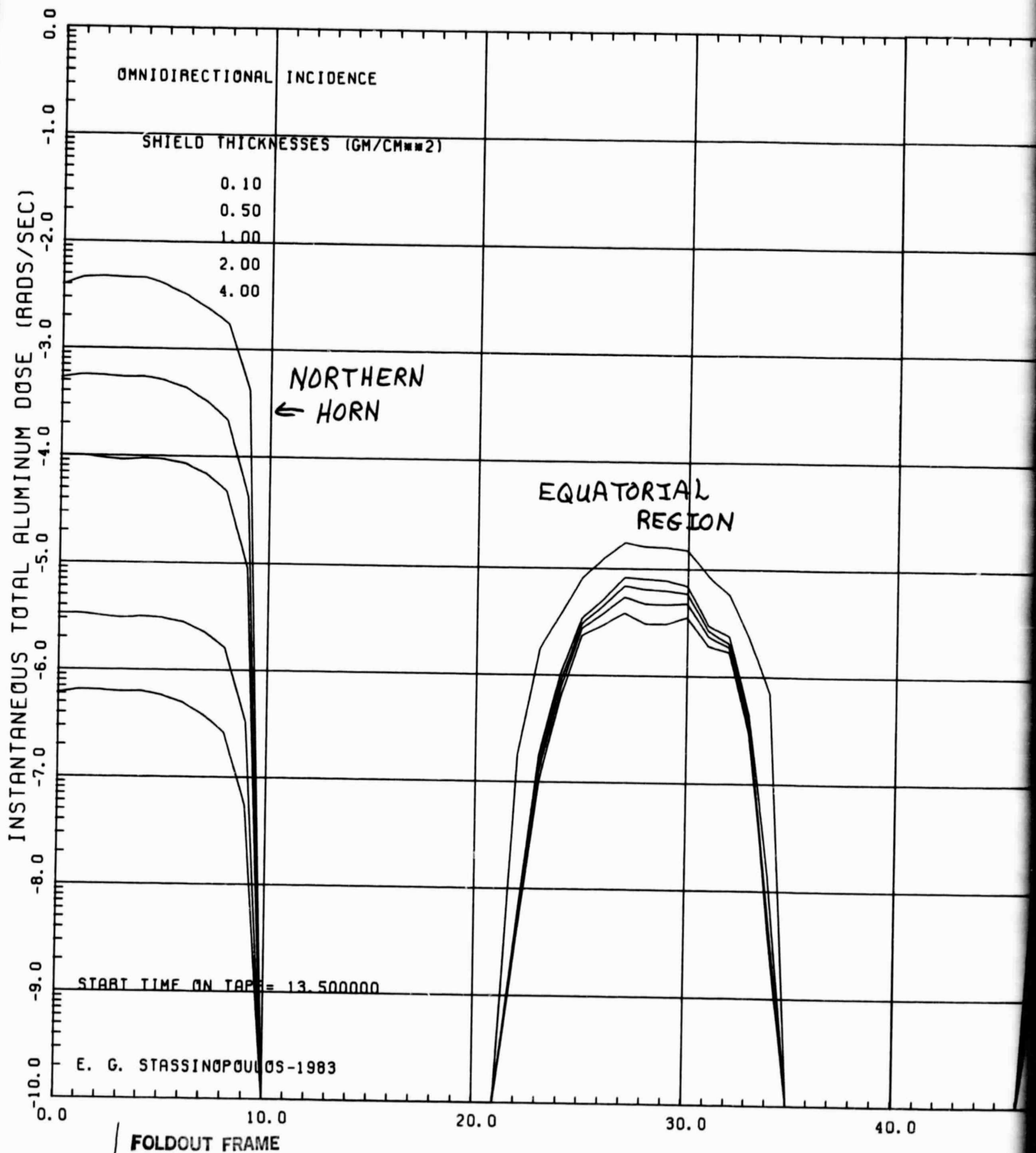
2

FOLDOUT FRAME

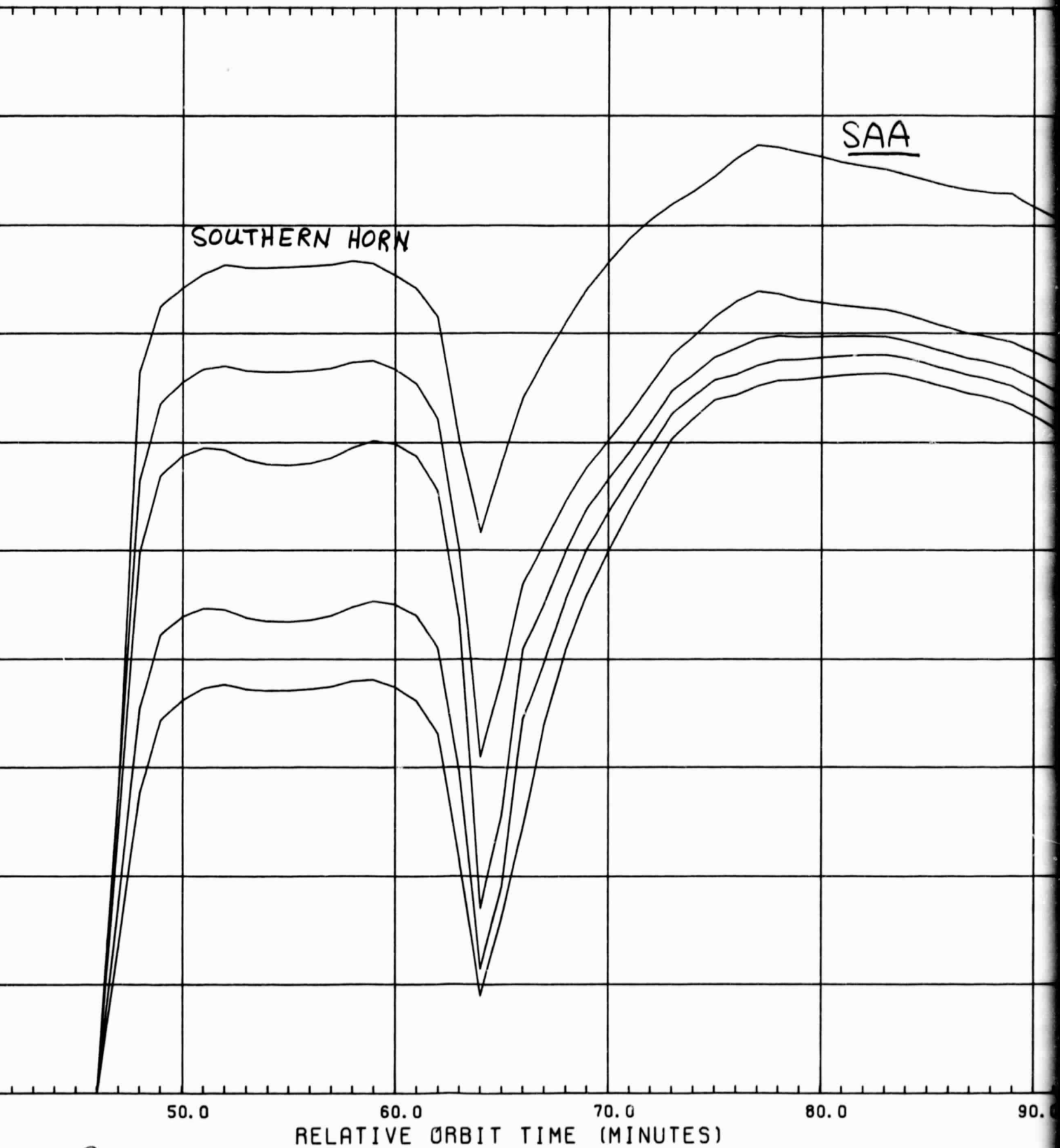


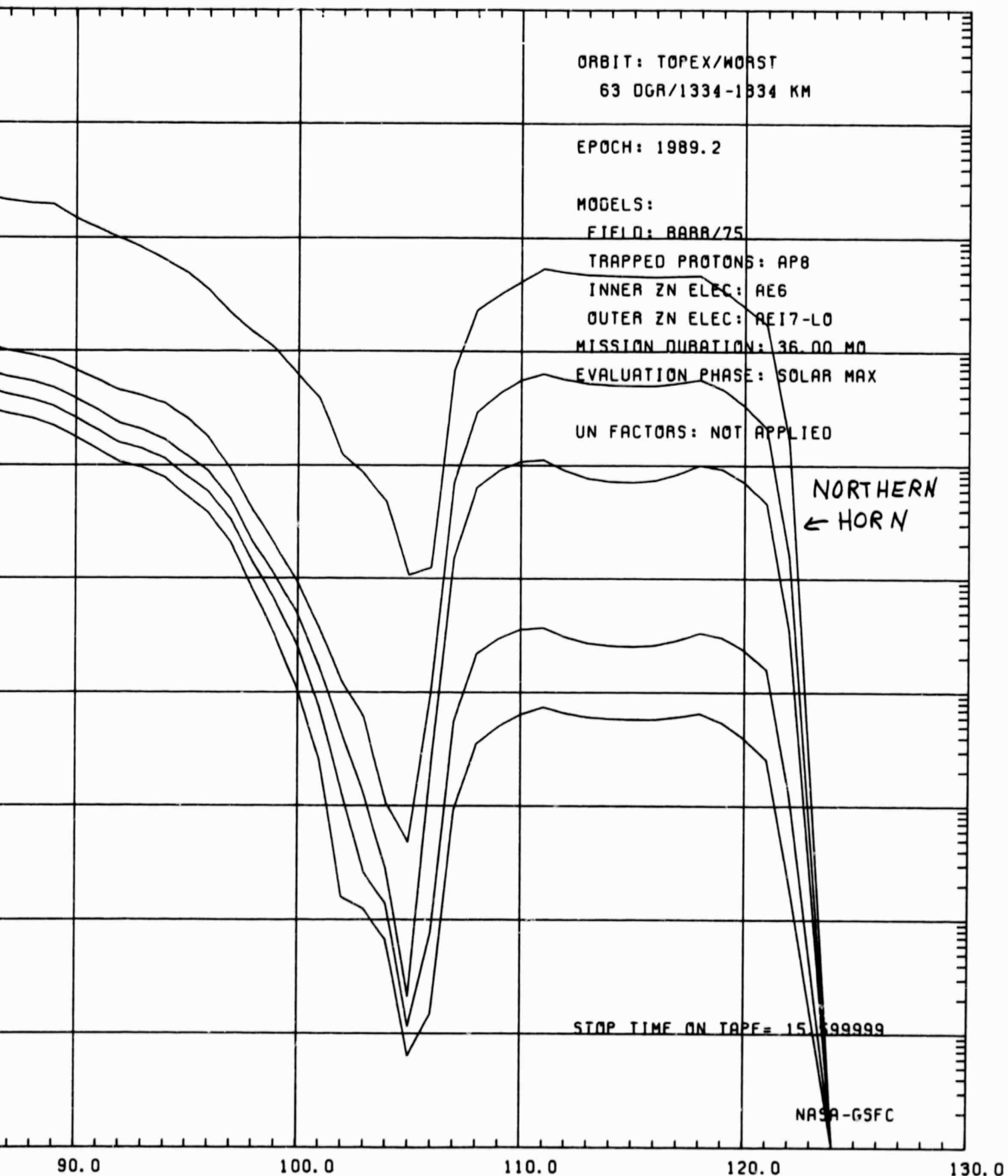


ORIGINAL PAGE IS
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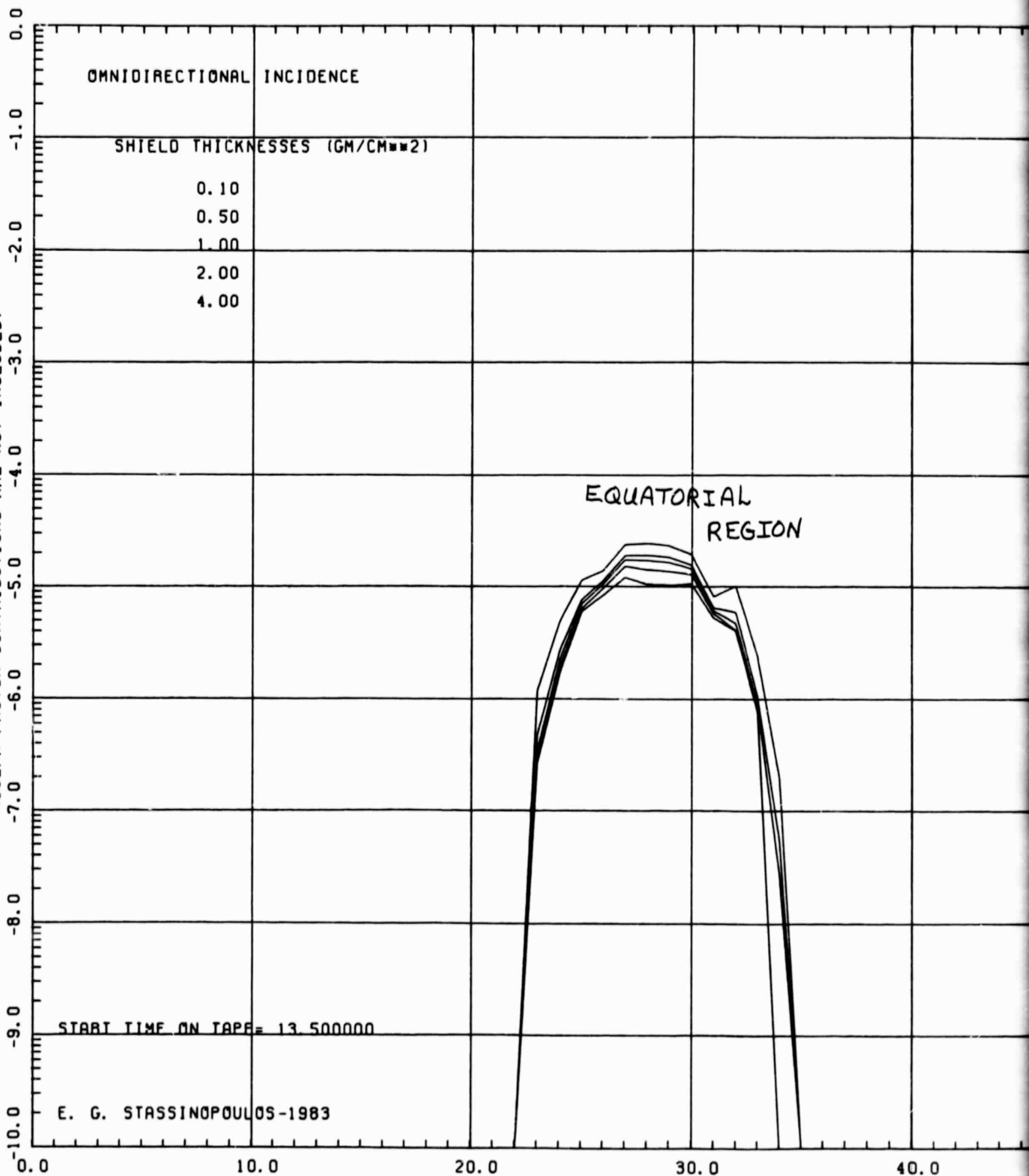
DOSE IN SEMI-INFINITE ALUMINUM MEDIUM





INSTANTANEOUS ALUMINUM PROTON DOSE (RADS/SEC)

(SOLAR PROTON CONTRIBUTIONS ARE NOT INCLUDED)



FOLDOUT FRAME

DOSE AT CENTER OF ALUMINUM SPHERES

ORIGINAL PAGE IS
OF POOR QUALITY

SAA

50.0

60.0

70.0

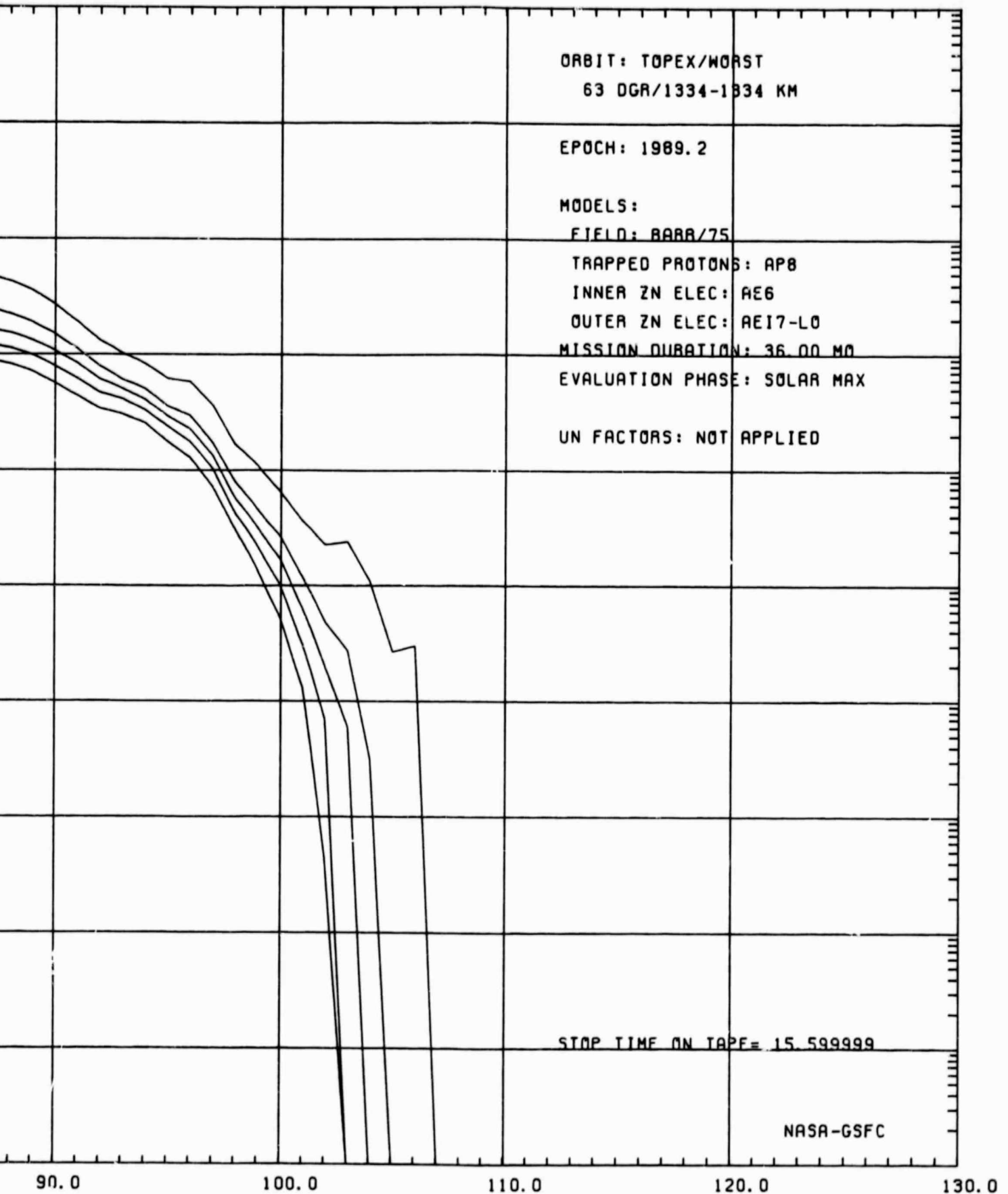
80.0

90.0

RELATIVE ORBIT TIME (MINUTES)

2 FOLDOUT FRAME

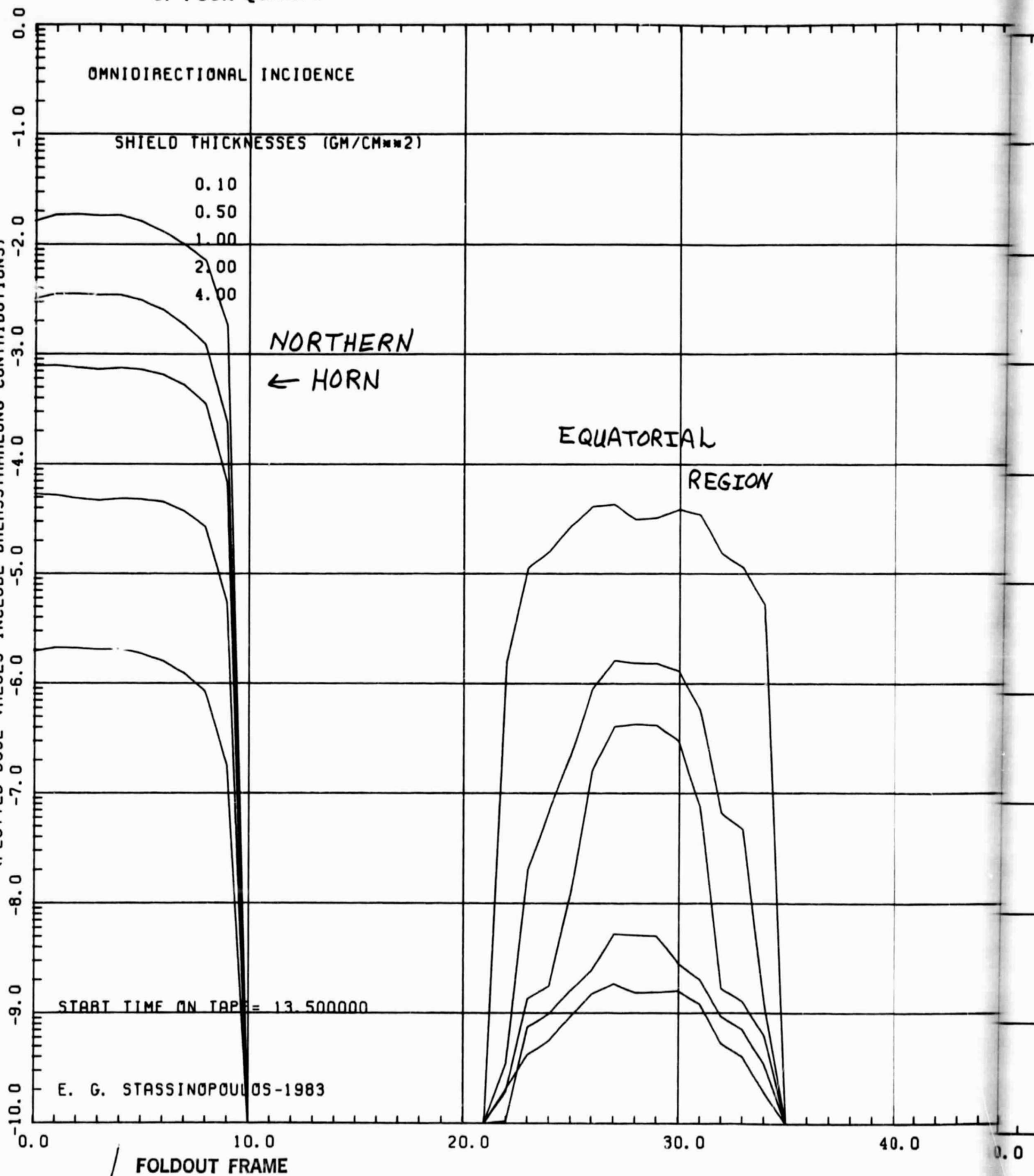
FIGURE 24



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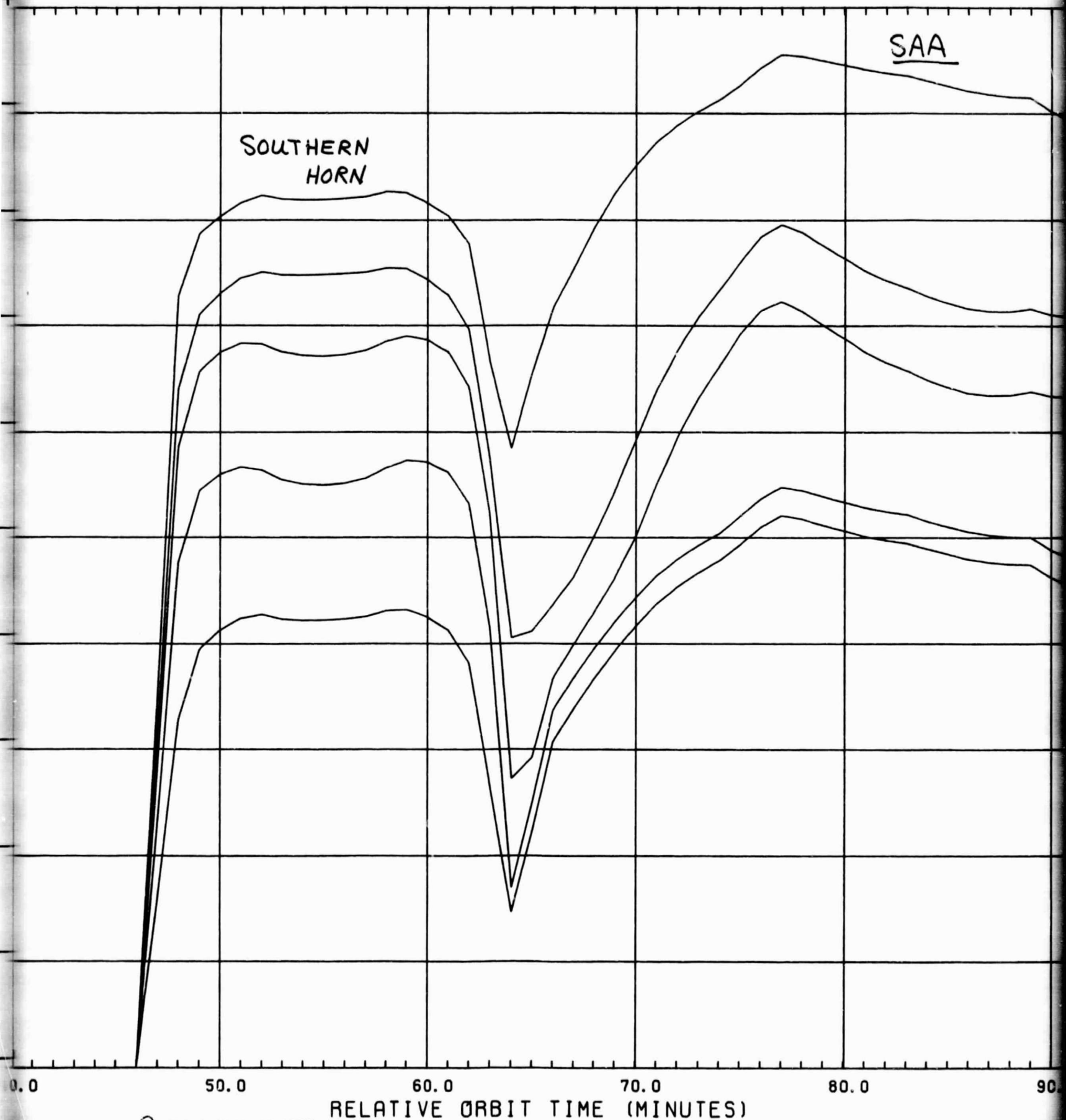
INSTANTANEOUS ALUMINUM ELECTRON DOSE (RADS/SEC)

(PLOTTED DOSE VALUES INCLUDE BREMSSTRAHLUNG CONTRIBUTIONS)



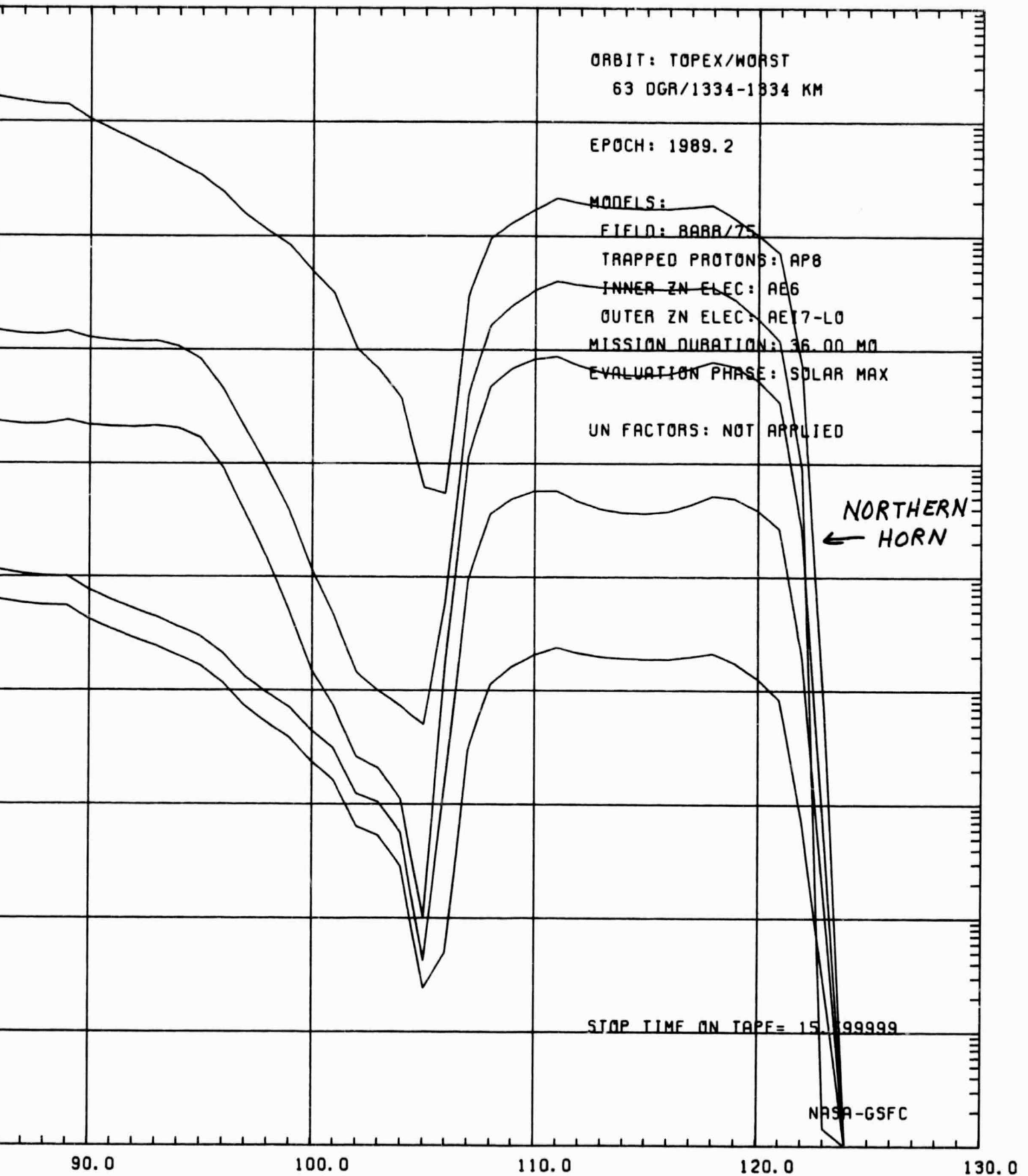
ORIGINAL PAGE 19
OF POOR QUALITY

DOSE AT CENTER OF ALUMINUM SPHERES



2 FOLDOUT FRAME

FIGURE 25



90.0

100.0

110.0

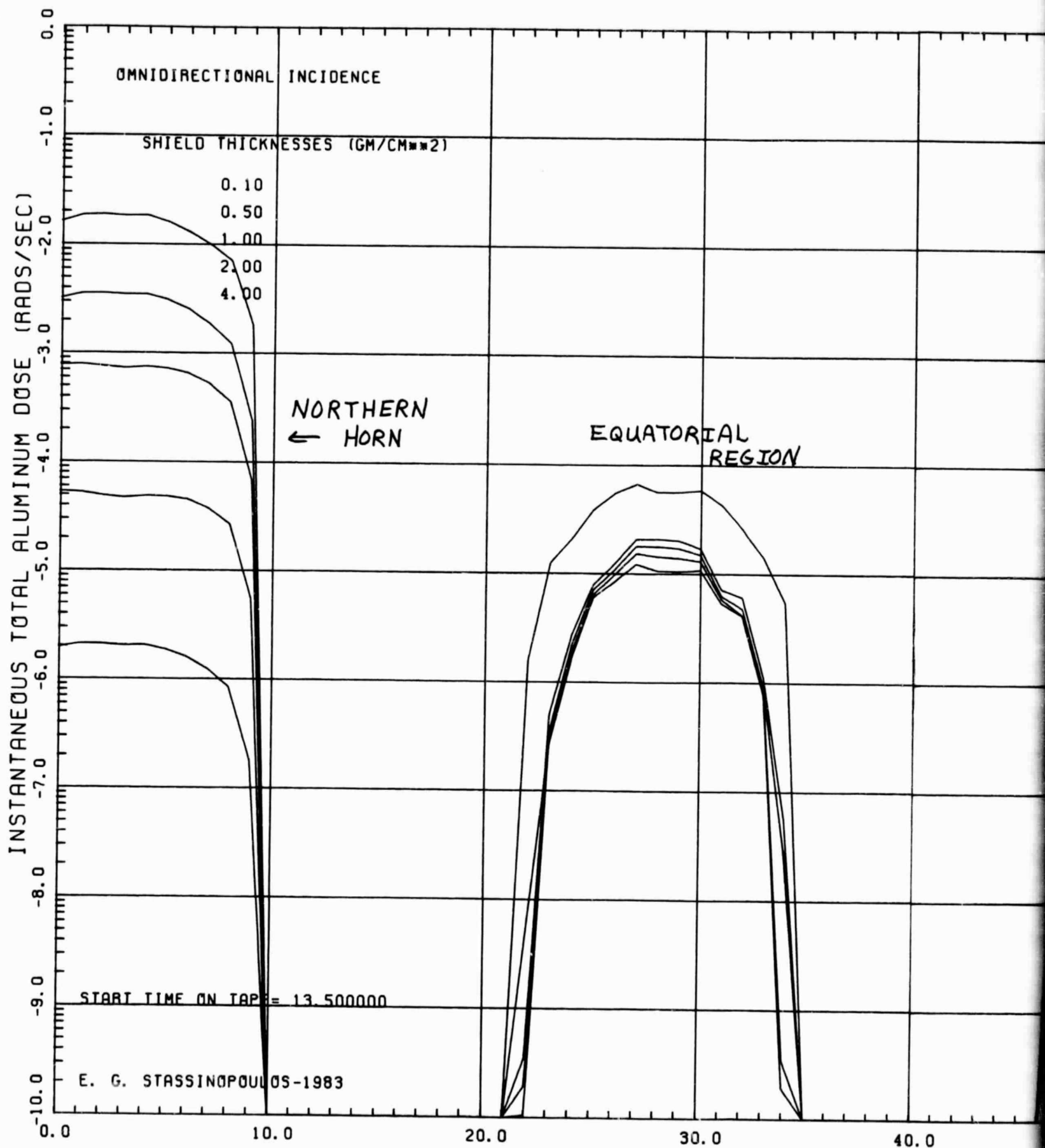
120.0

130.0

3 FOLDOUT FRAME

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OF POOR QUALITY

ORIGINAL PAGE 19
OF POOR QUALITY



FOLDOUT FRAME

DOSE AT CENTER OF ALUMINUM SPHERES

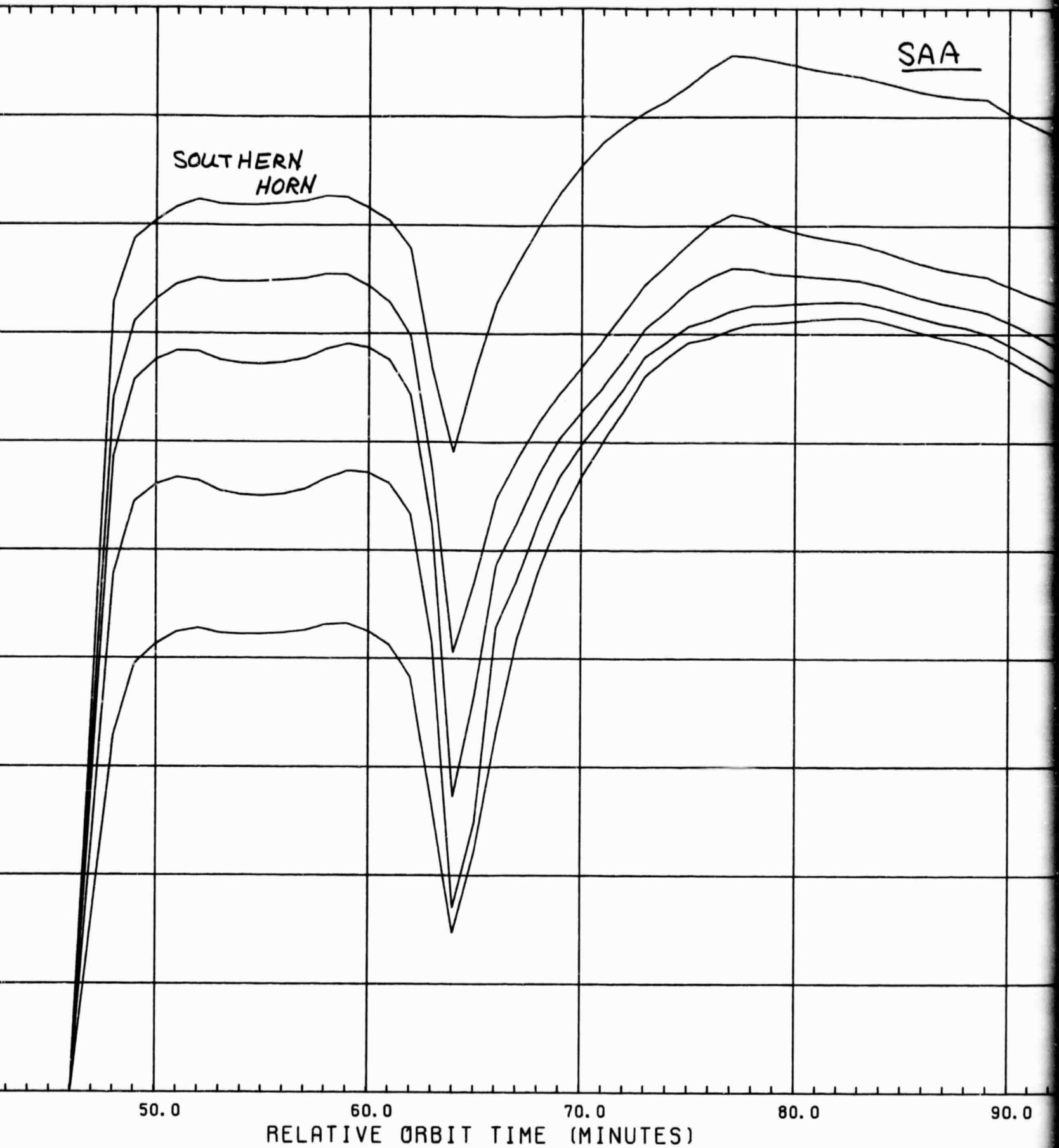
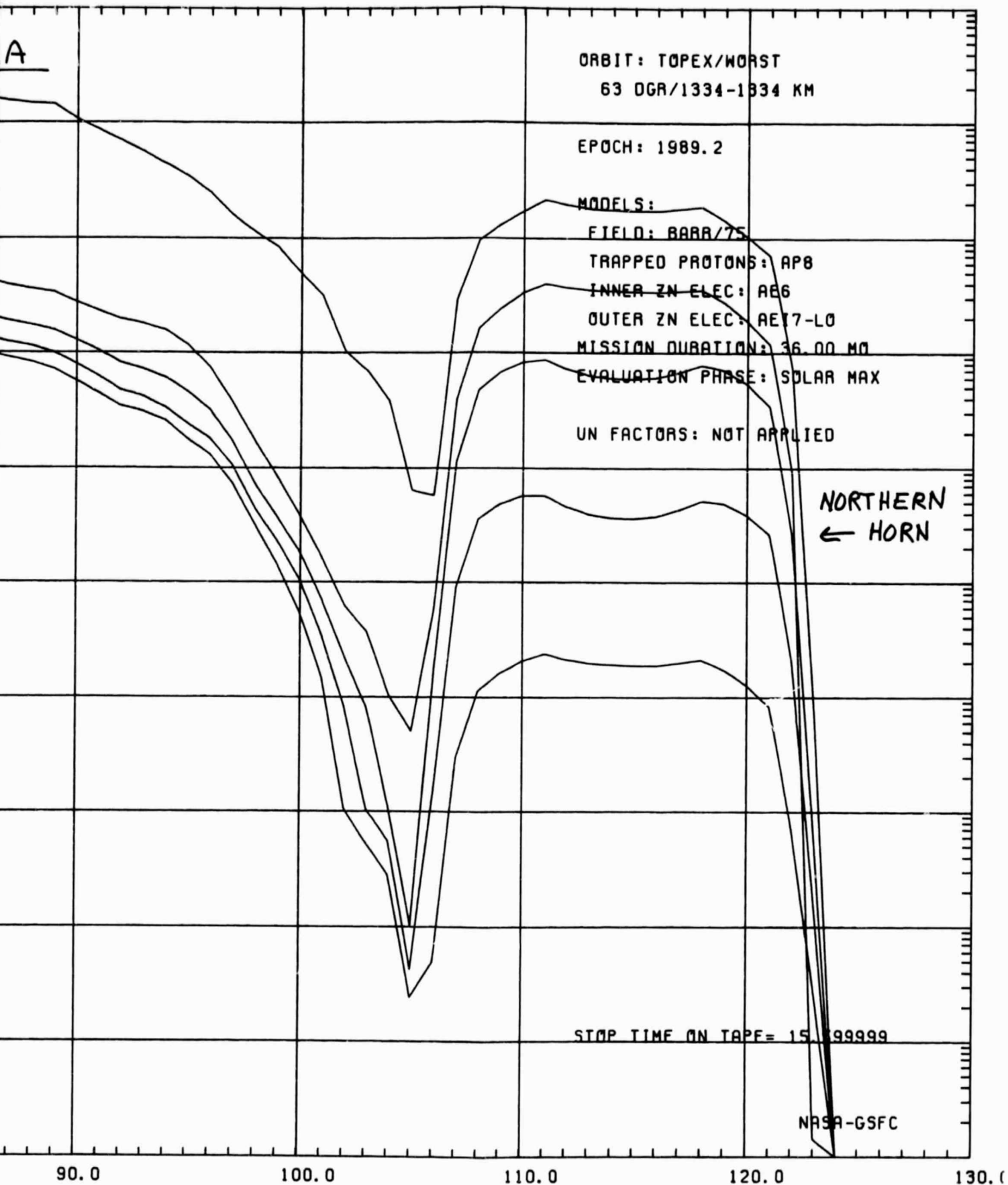


FIGURE 26



90.0

100.0

110.0

120.0

130.0

COSMIC RAY ANALYSIS : GEOMAGNETIC SHIELDING

ORIGINAL PAGE IS
OF POOR QUALITY

TOPEX:

$i = 63^\circ$

$h = 1334$ KM

SOLAR MAX

EXPOSURE PROFILE

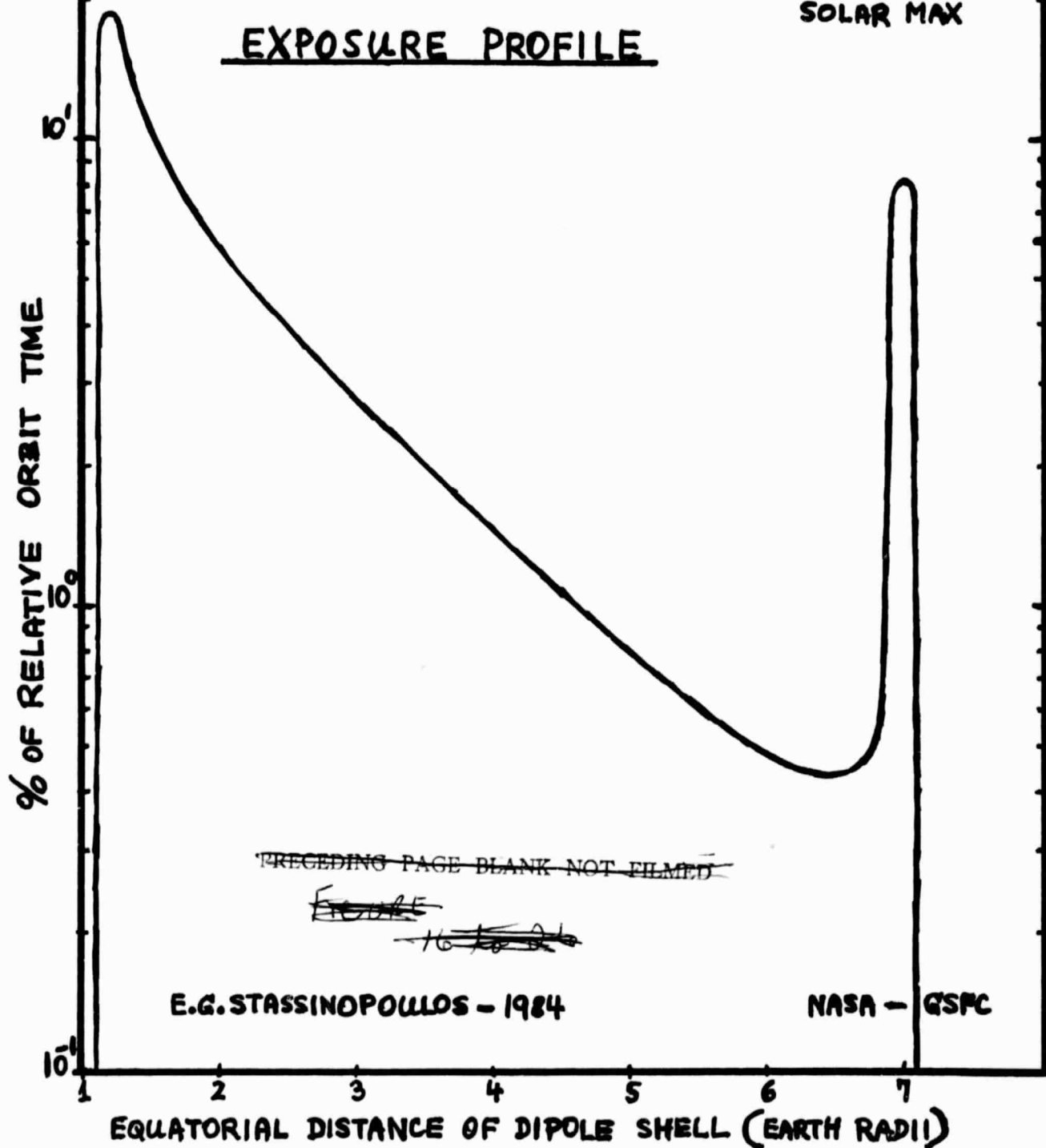


FIGURE 28

COSMIC RAY ANALYSIS: GEOMAGNETIC SHIELDING

TOPEX:

$i = 63^\circ$

$h = 1334$ KM

SOLAR MAX

ACCESSIBILITY GRAPH

% OF RELATIVE ORBIT TIME

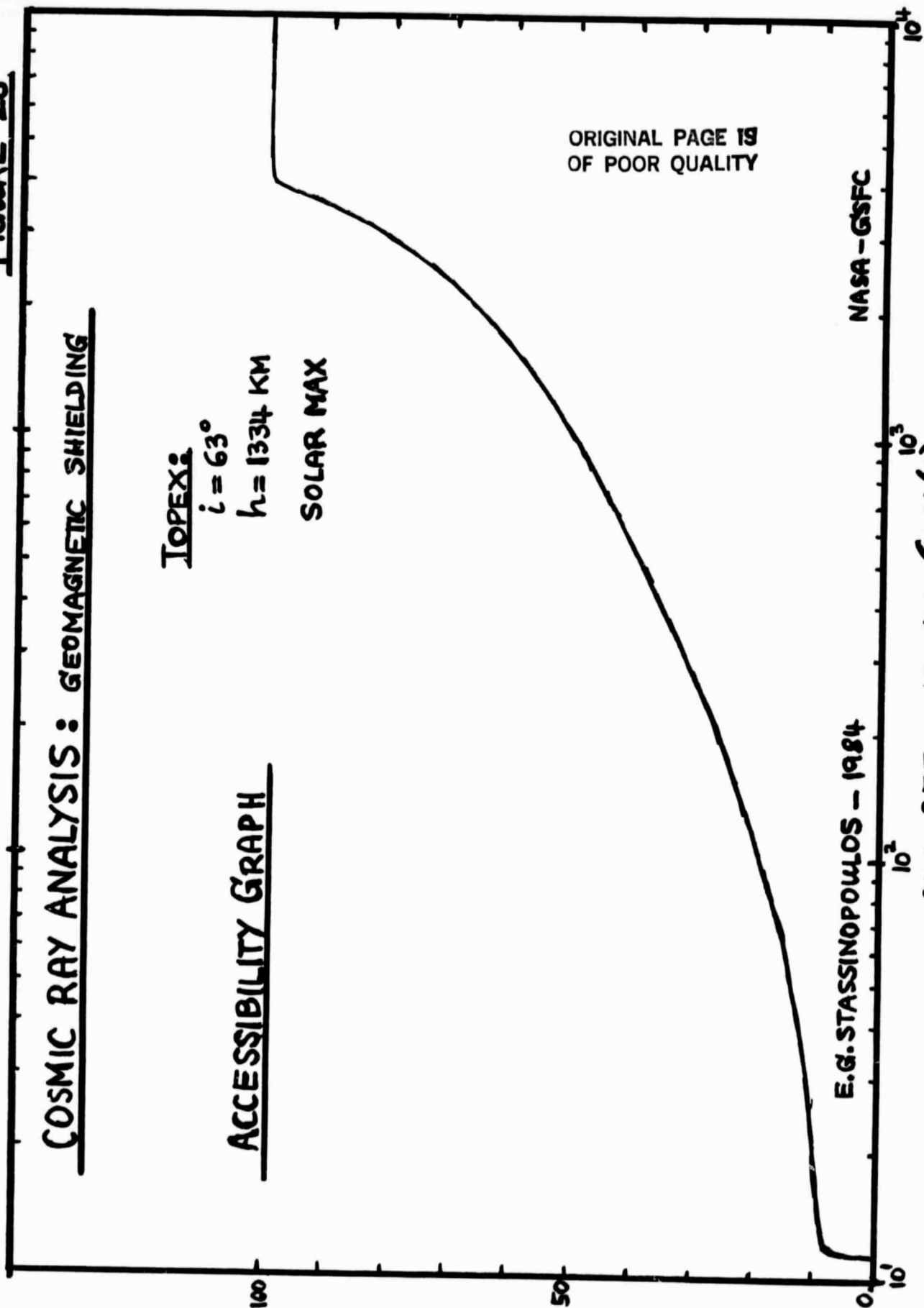
E.G. STASSINOPOULOS - 1984

NASA - GSFC

CUT-OFF ENERGY (MEV/n)

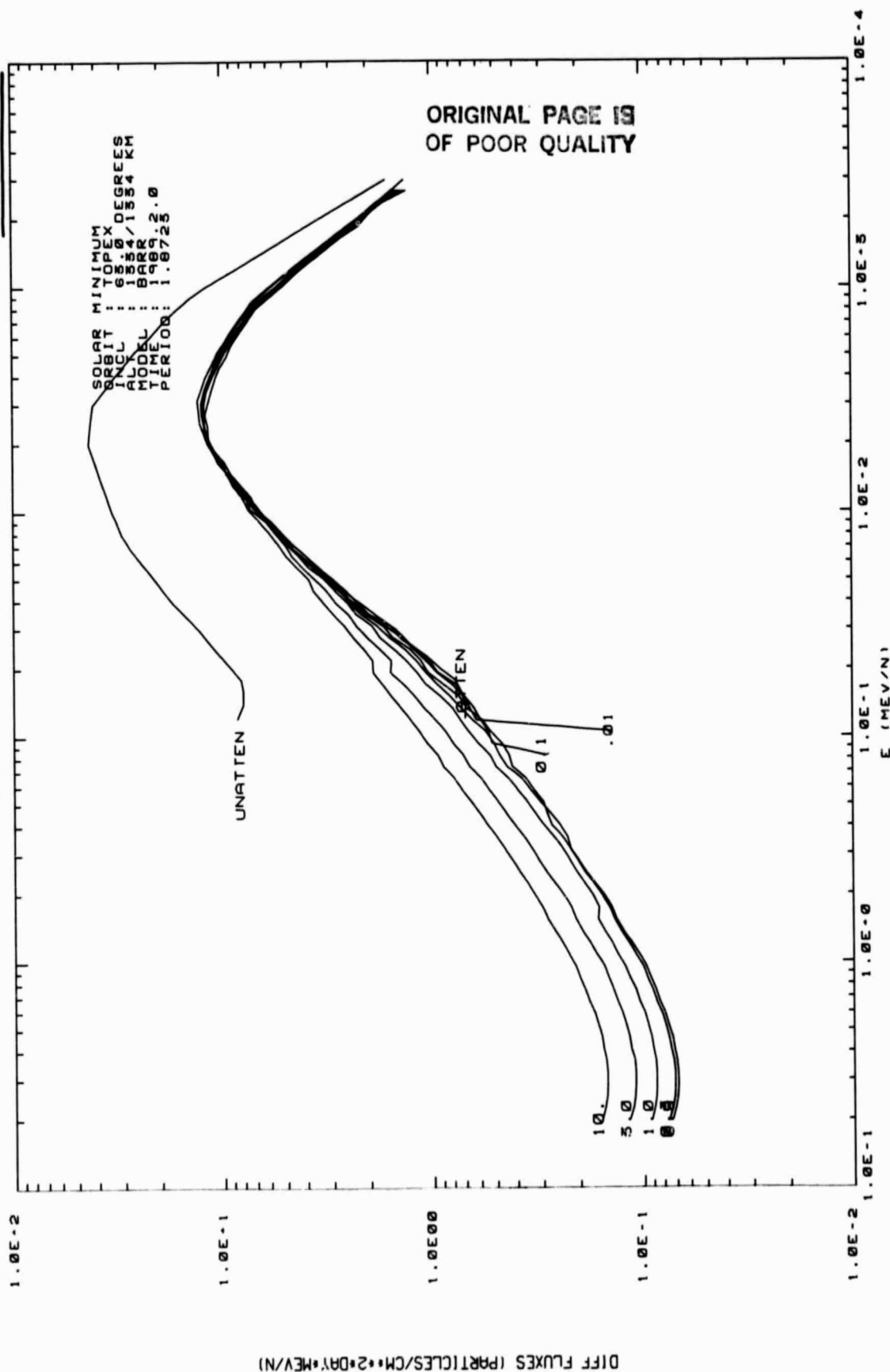
10^1 10^2 10^3 10^4

ORIGINAL PAGE 19
OF POOR QUALITY



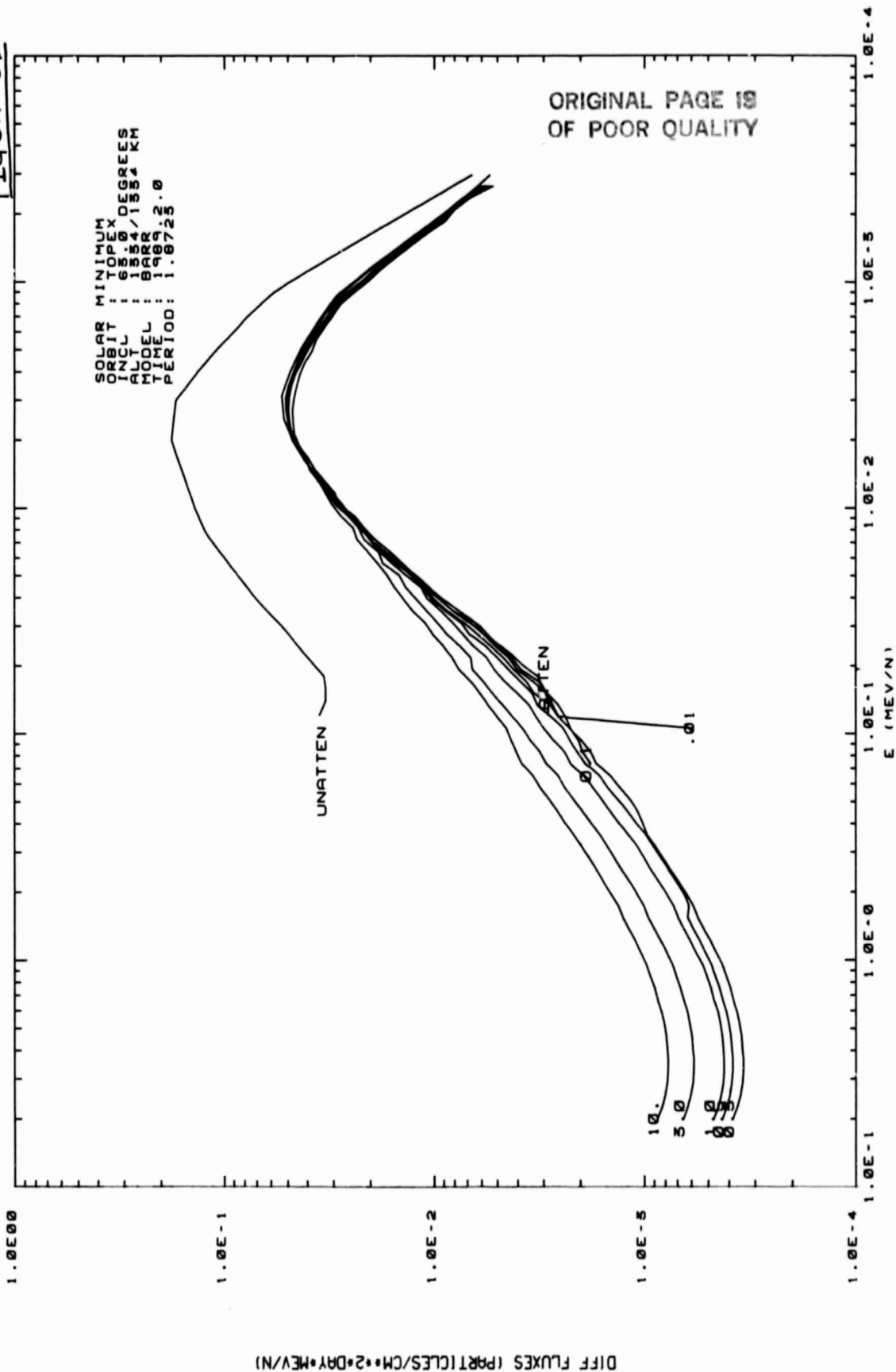
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: HE
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=2
R=4.00

FIGURE 2.9



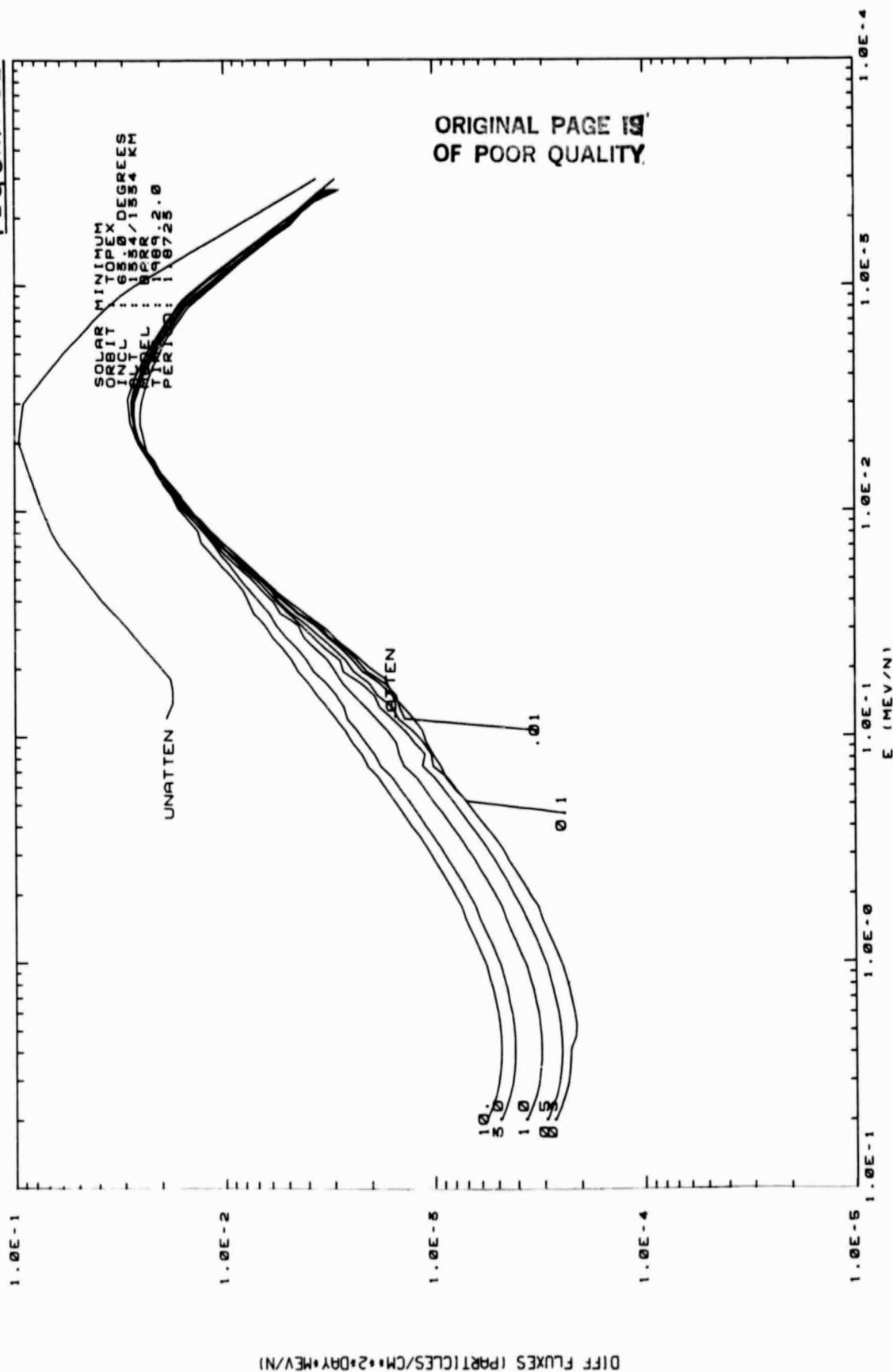
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: LI
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=5
A=6.94

FIGURE 30



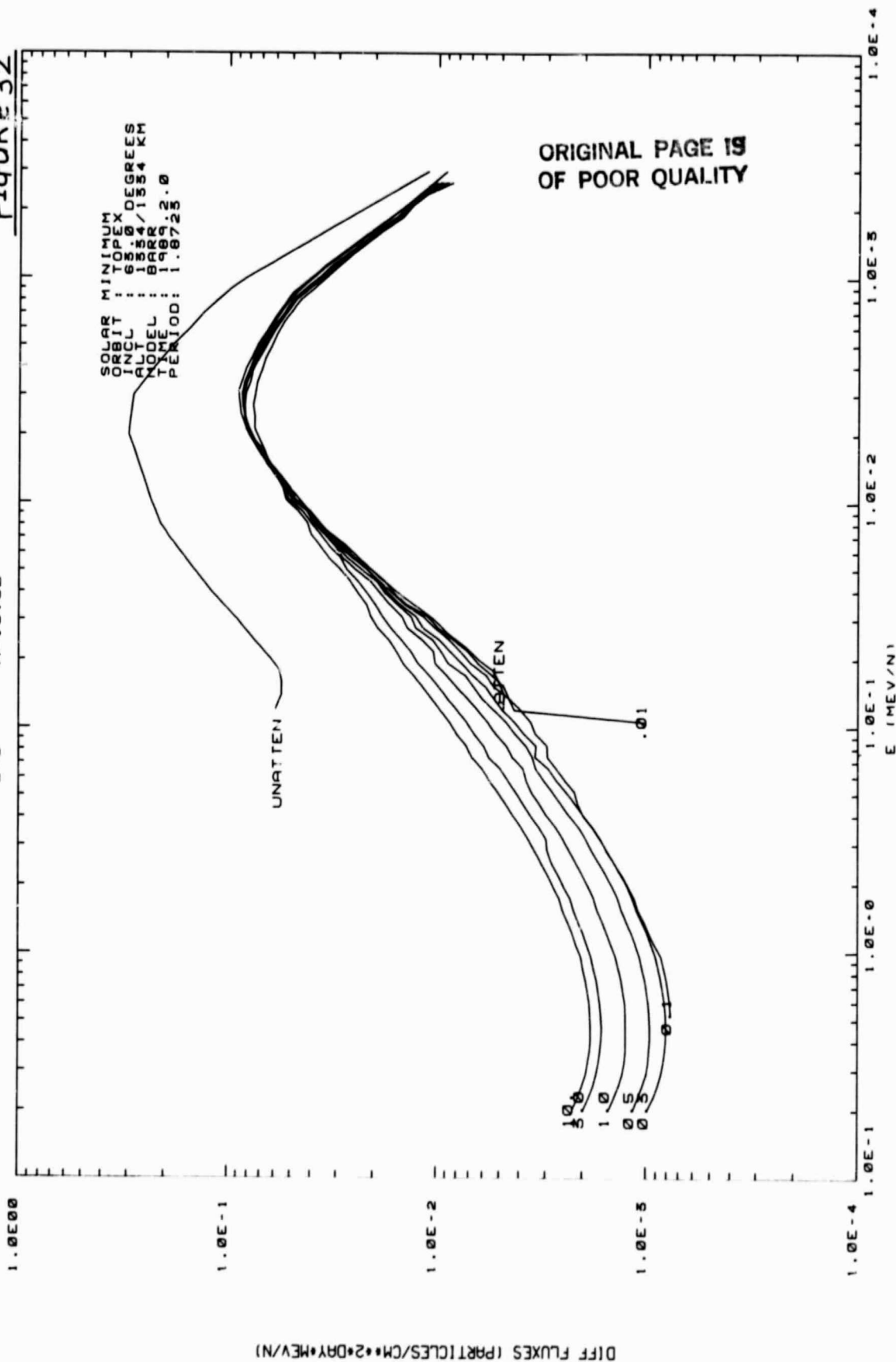
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: BE
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=4
A=9.01

FIGURE 31



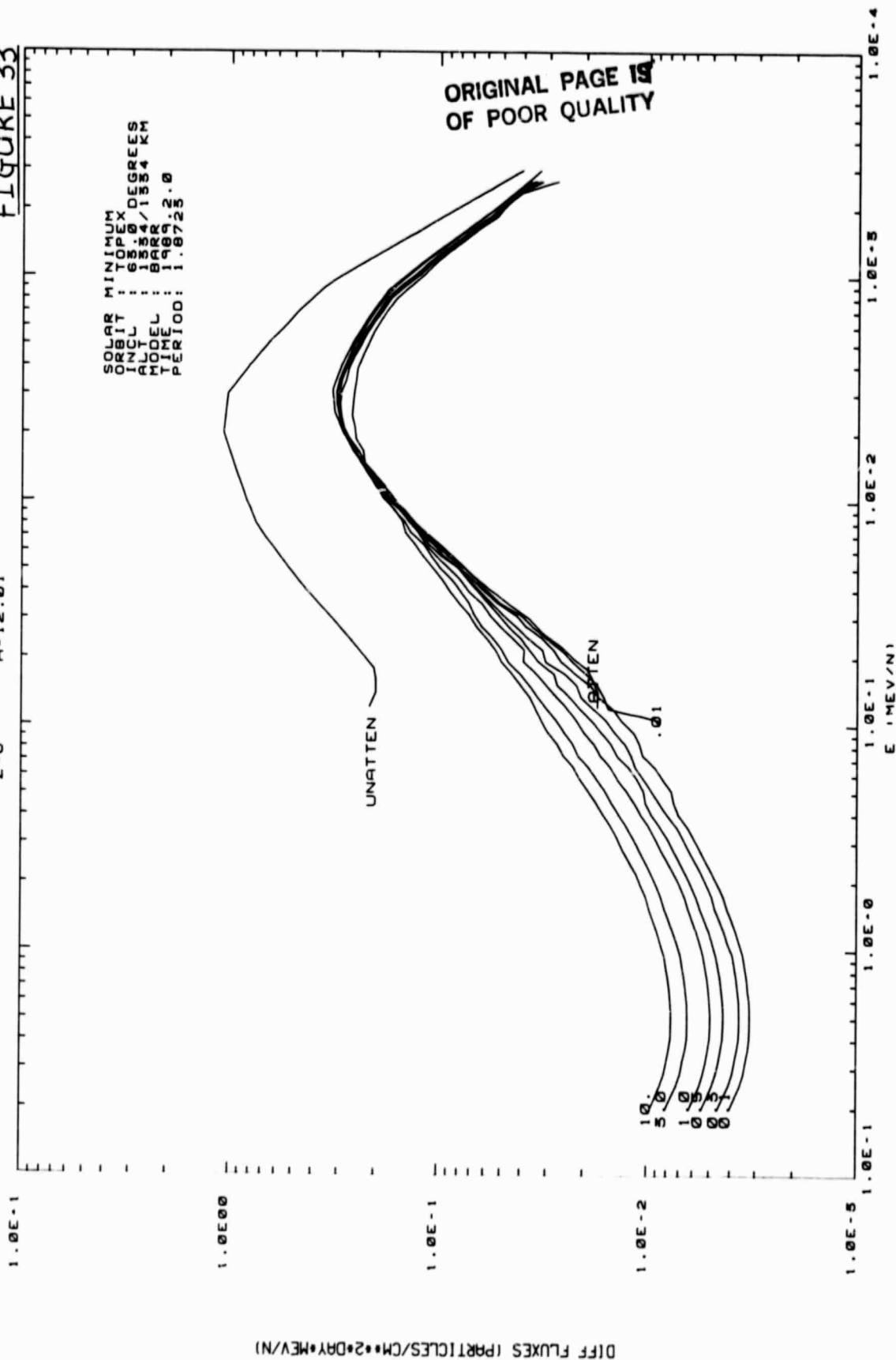
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: B
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-5
A-10.82

FIGURE 32



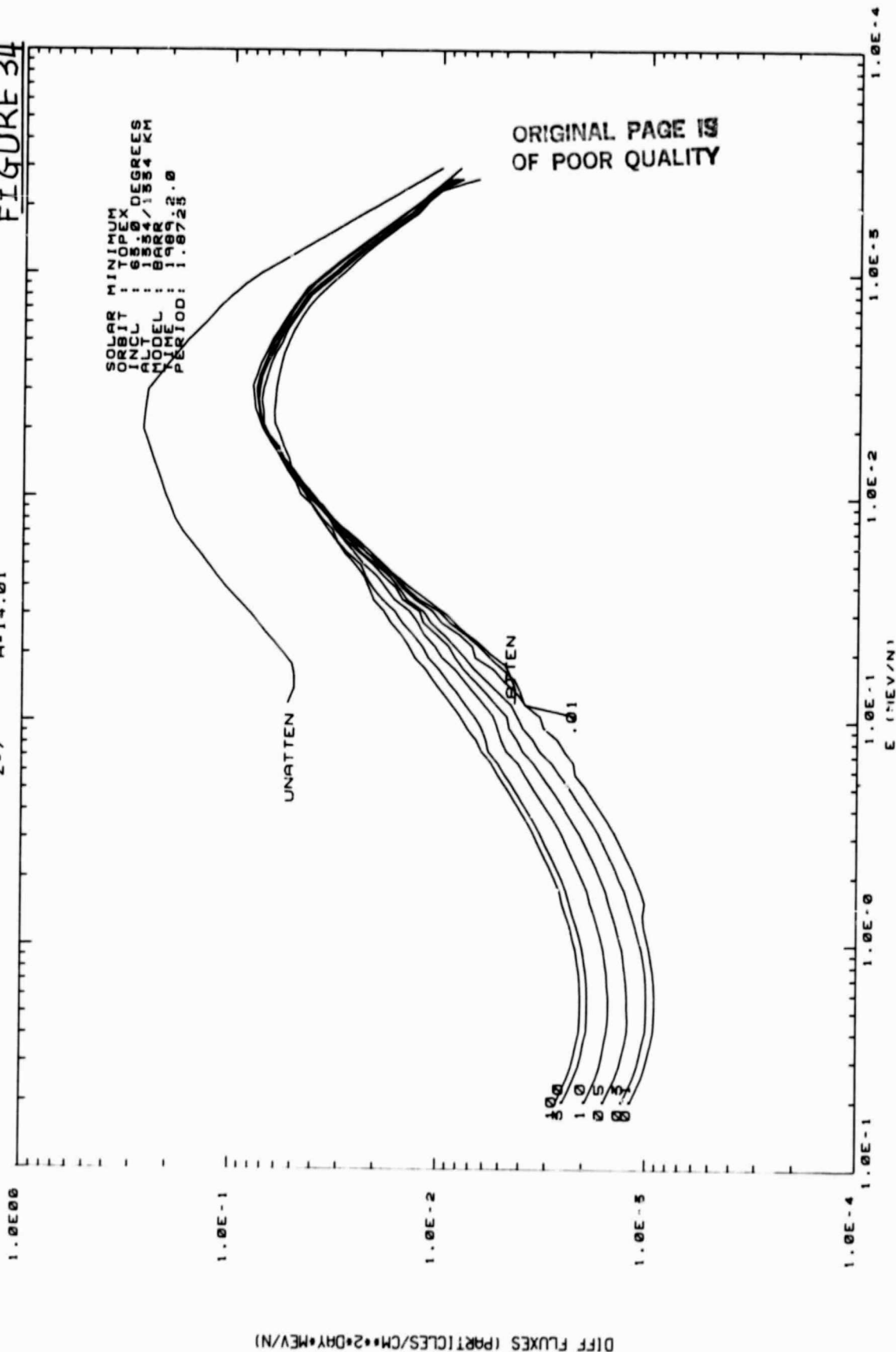
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: C
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=6 A=12.01

FIGURE 33



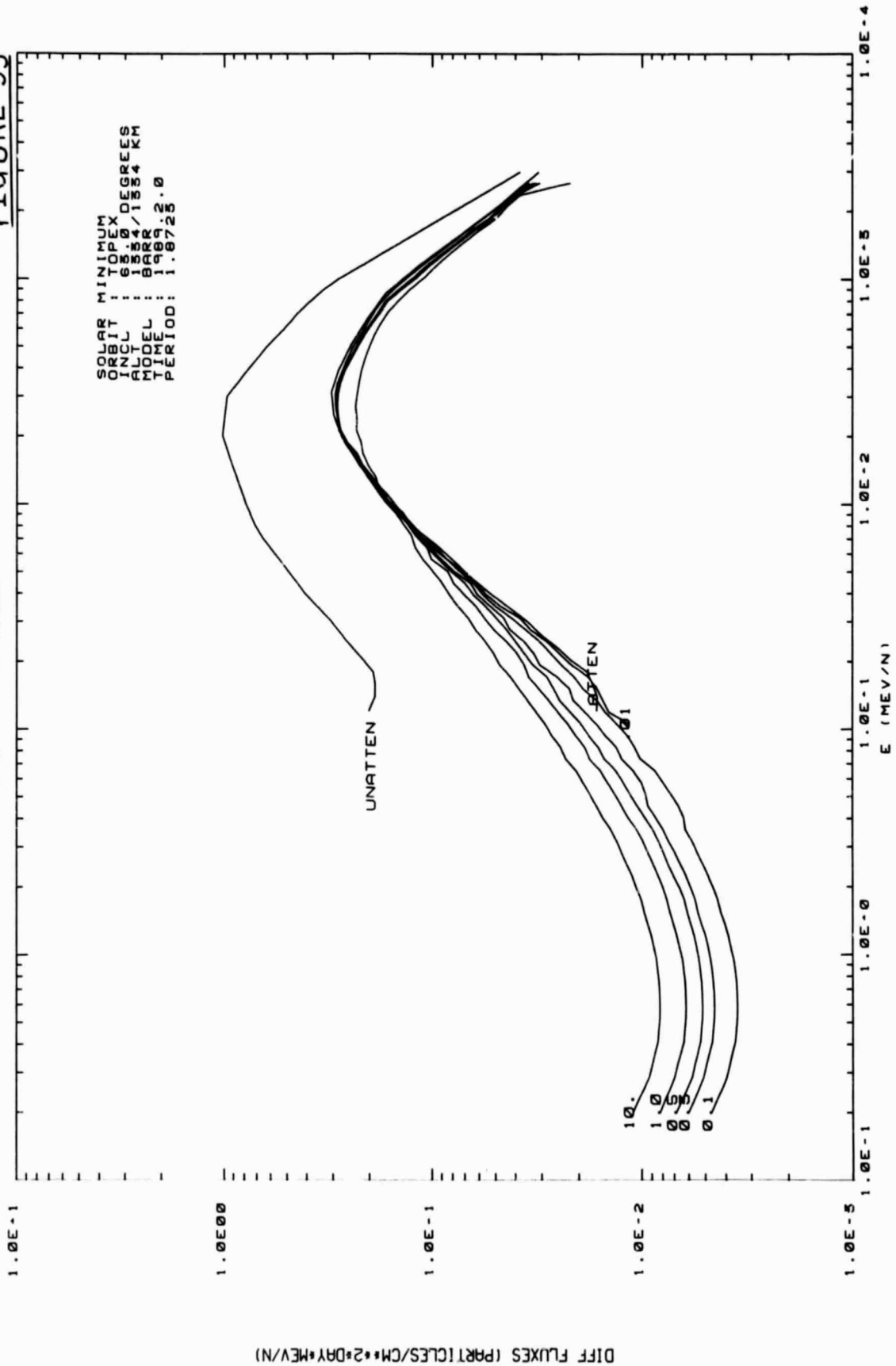
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: N
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=7
A=14.01

FIGURE 34



TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: 0
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=8 A=16.00

FIGURE 35

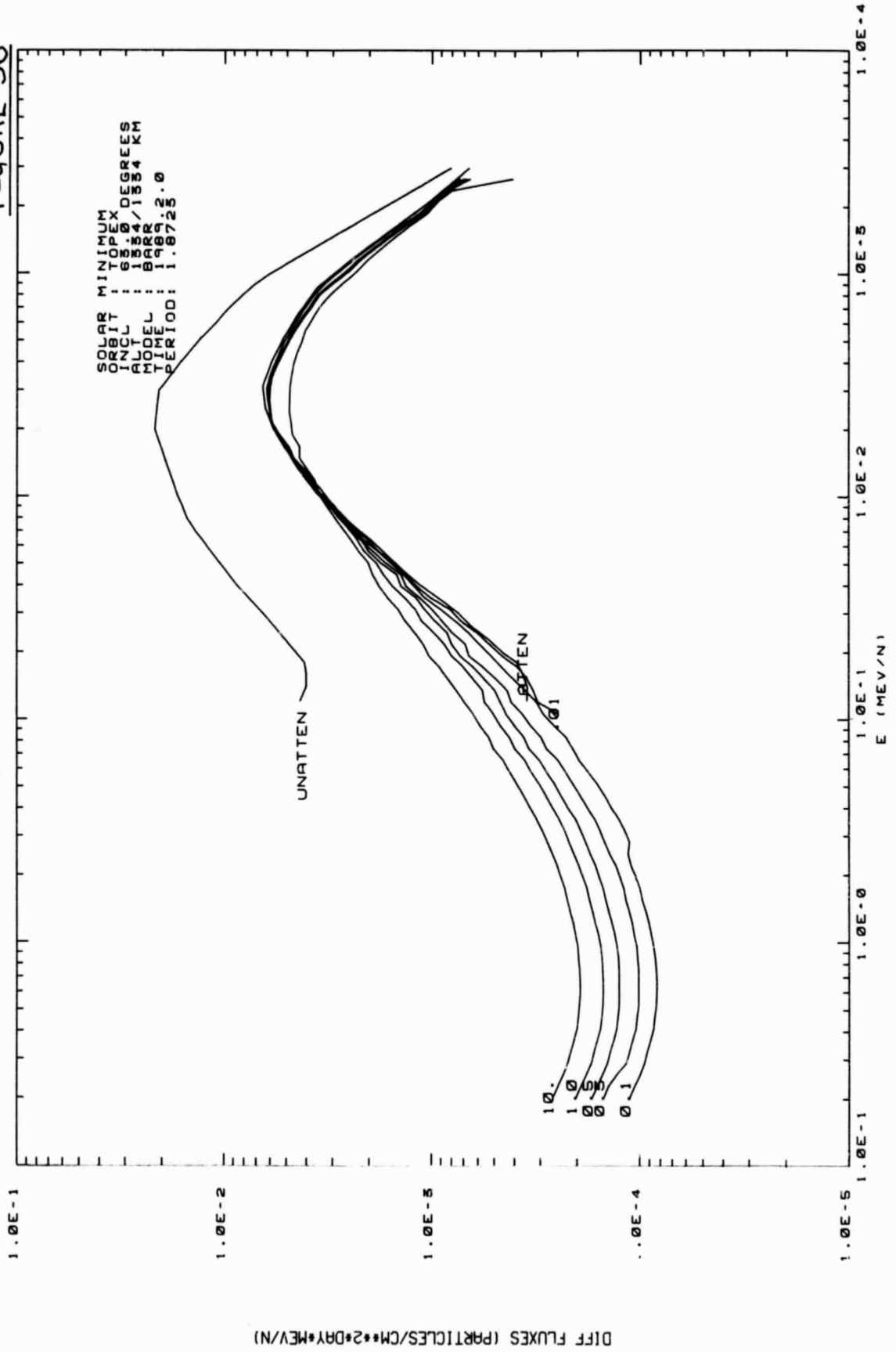


NASA-GSFC, 1984

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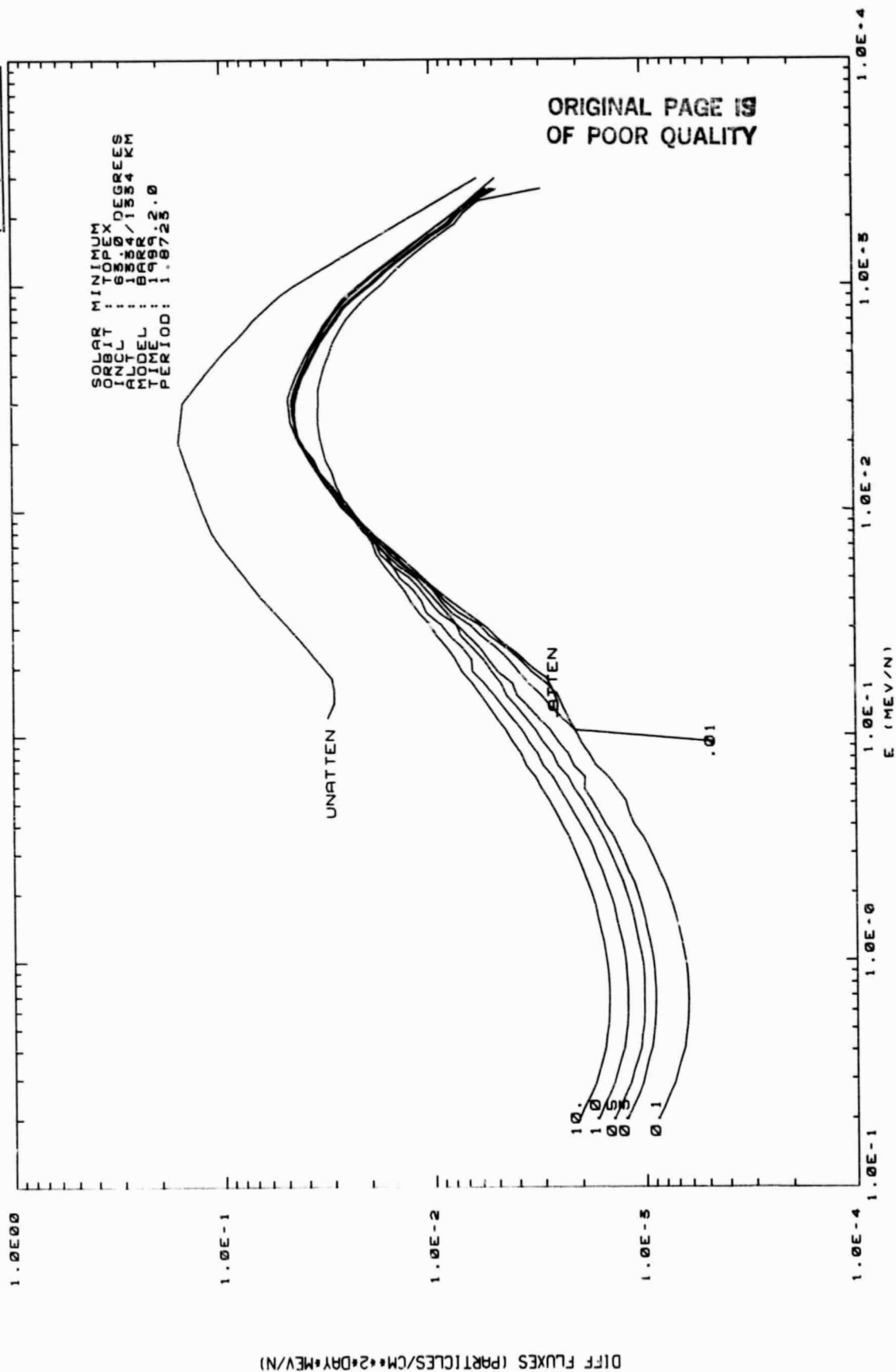
FIGURE 36

TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM OR: F
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=9
A=19.00



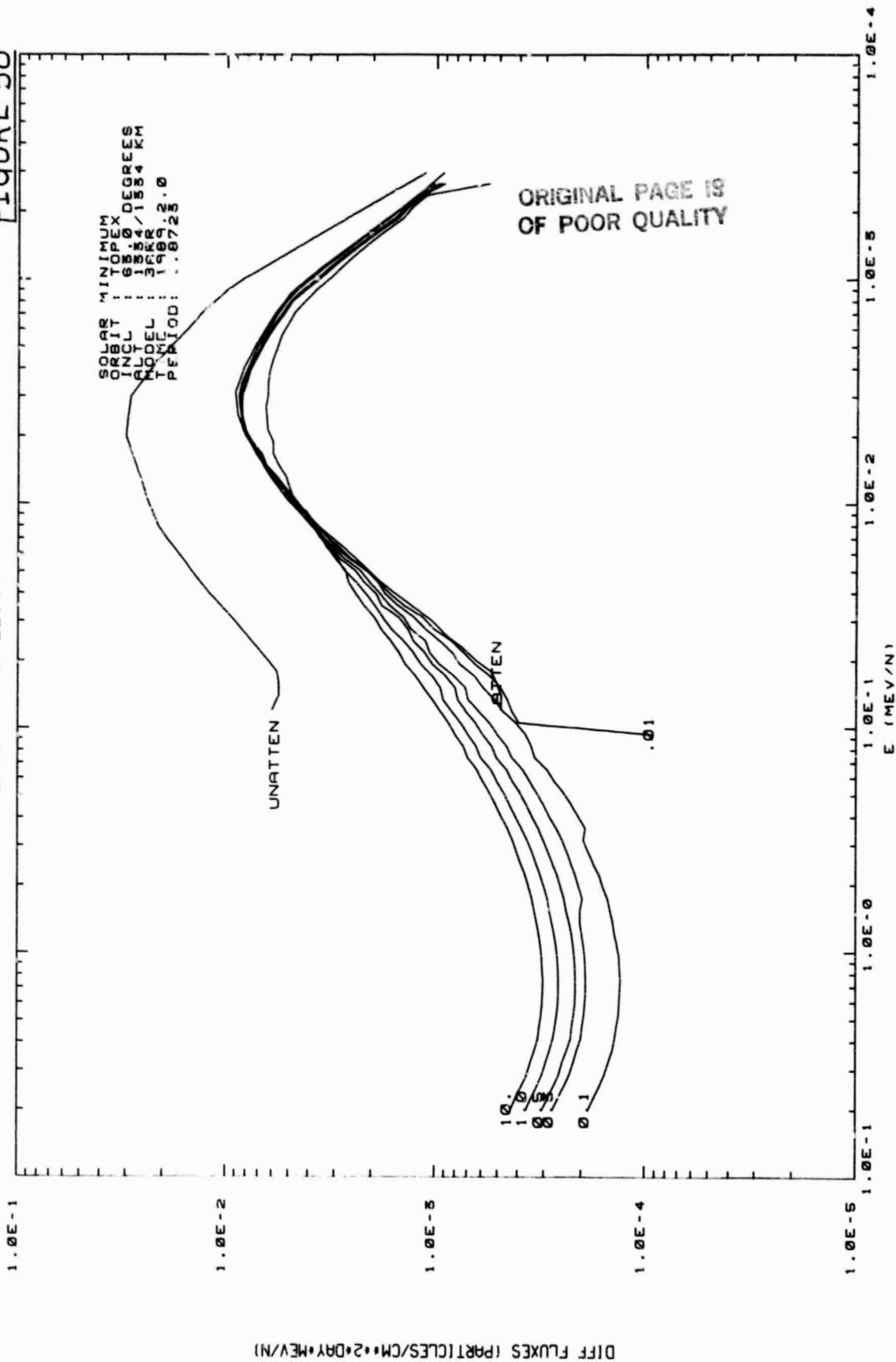
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: NE
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-10 A-20.18

FIGURE 37



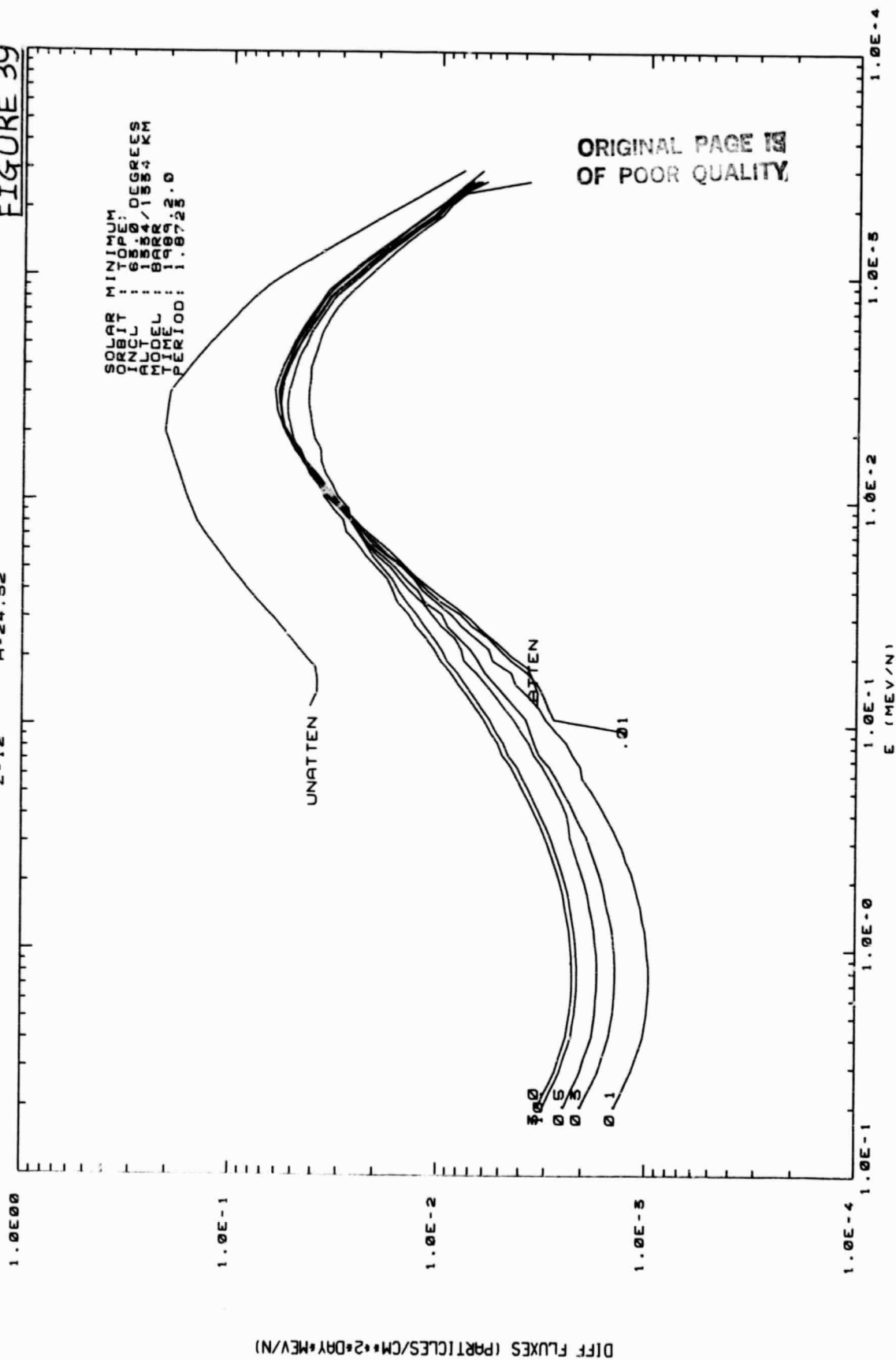
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: NA
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-11
A-22.99

FIGURE 38



TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: MG
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-12 A-24.32

FIGURE 39

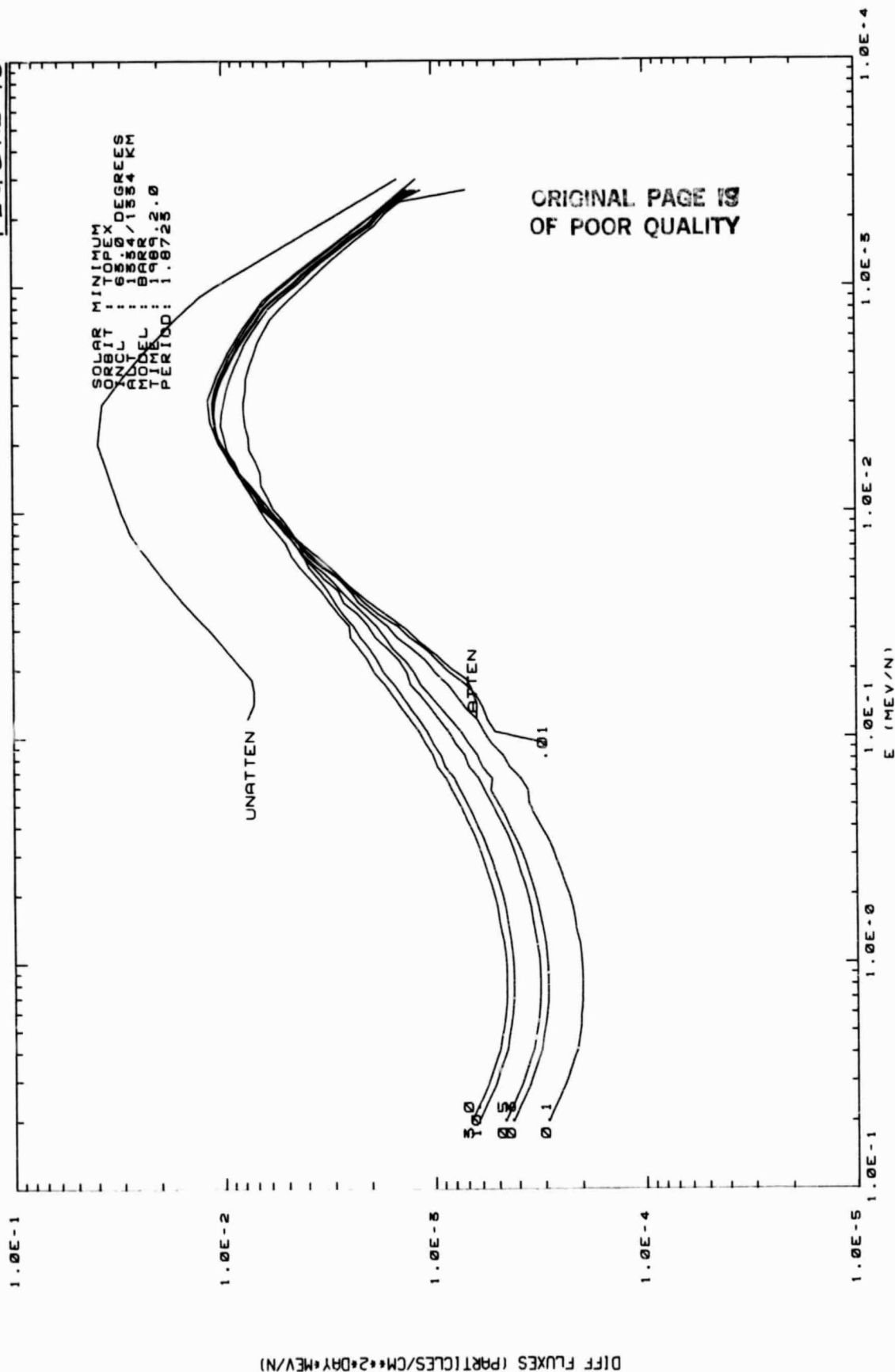


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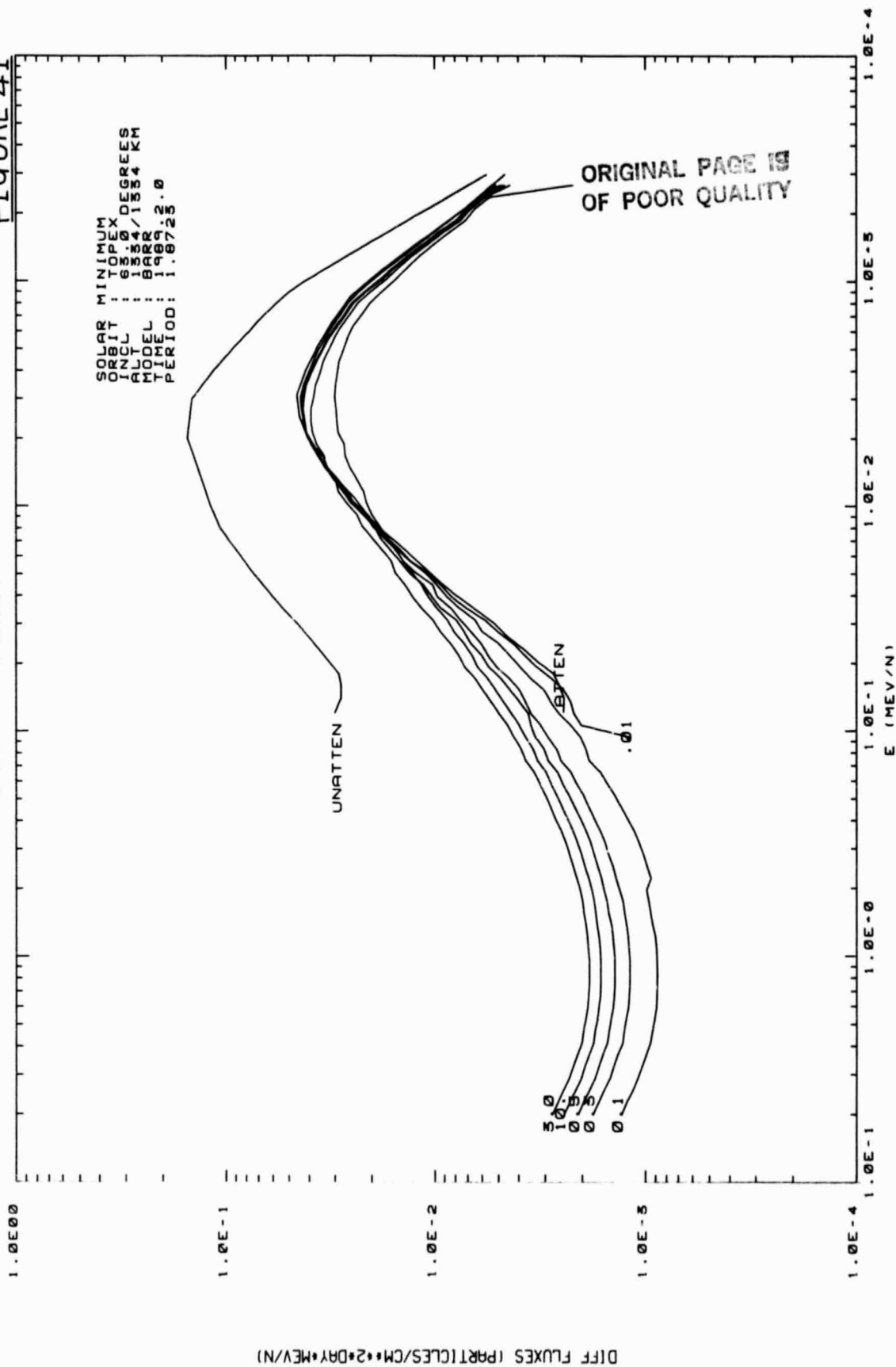
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: AL
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-13
A-26.98

FIGURE 40



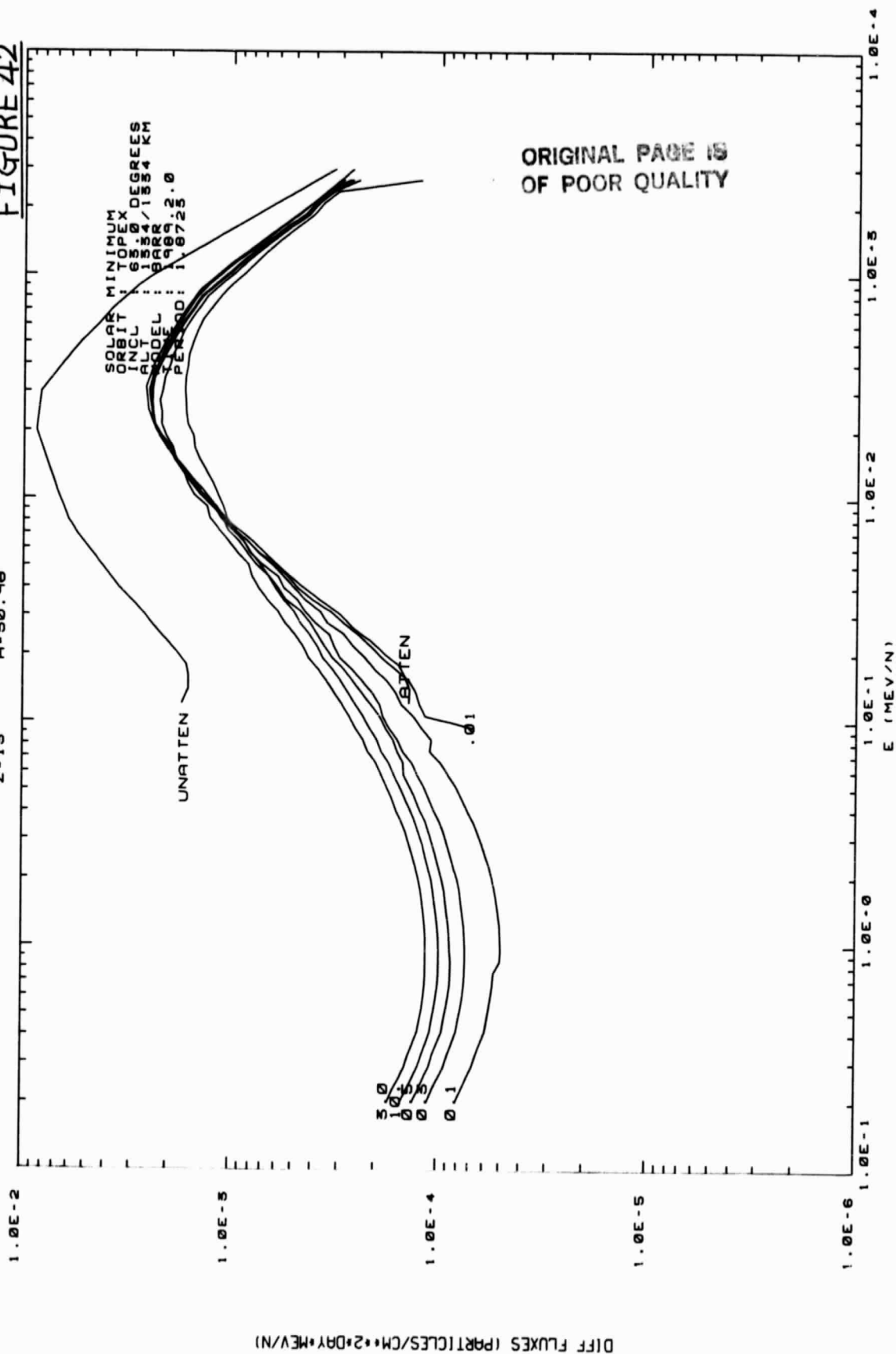
TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: SI
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=14
A=28.09

FIGURE 41



TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: P
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-15 A-30.98

FIGURE 42

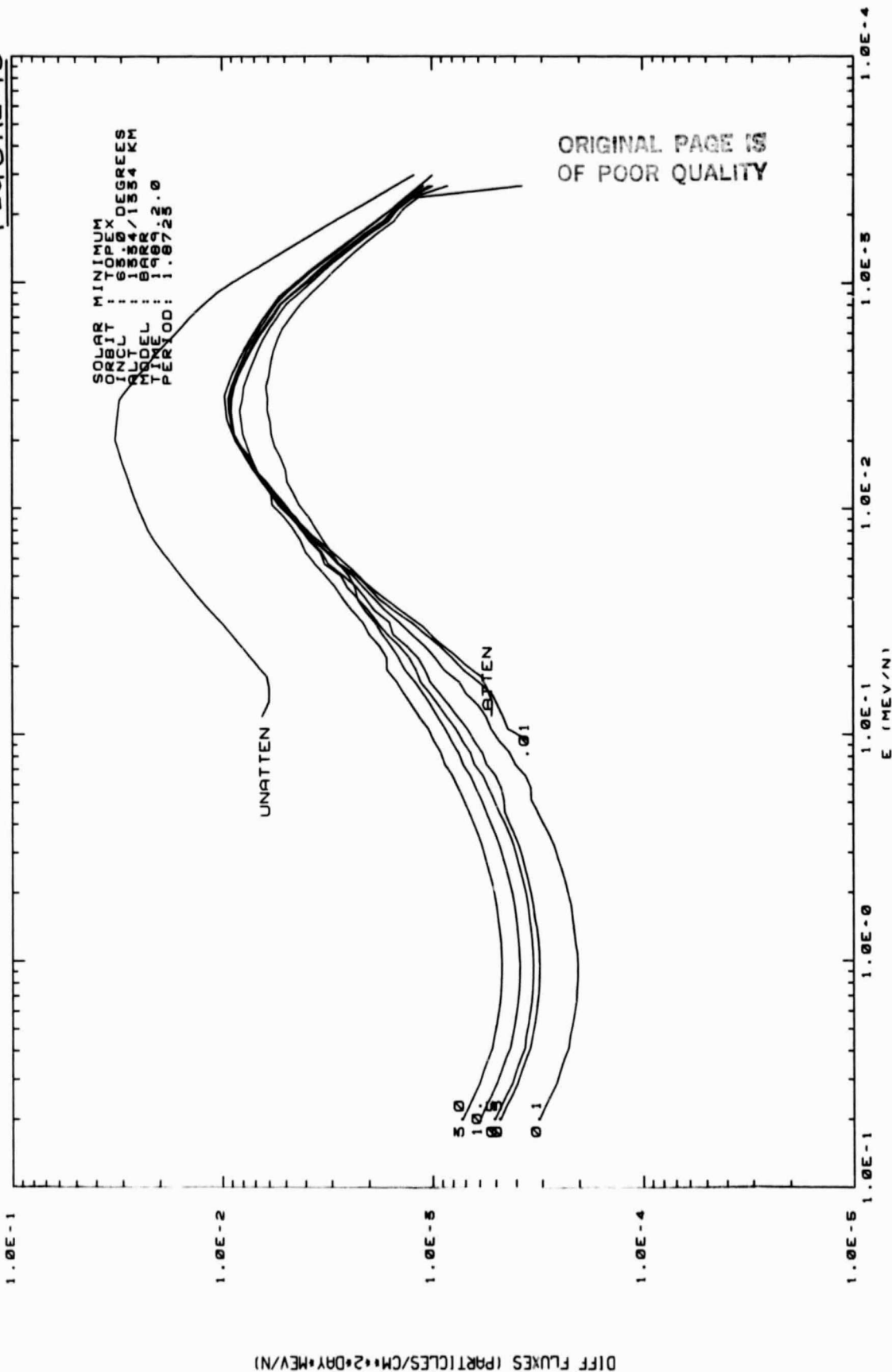


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: S
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-16 A-52.07

FIGURE 43

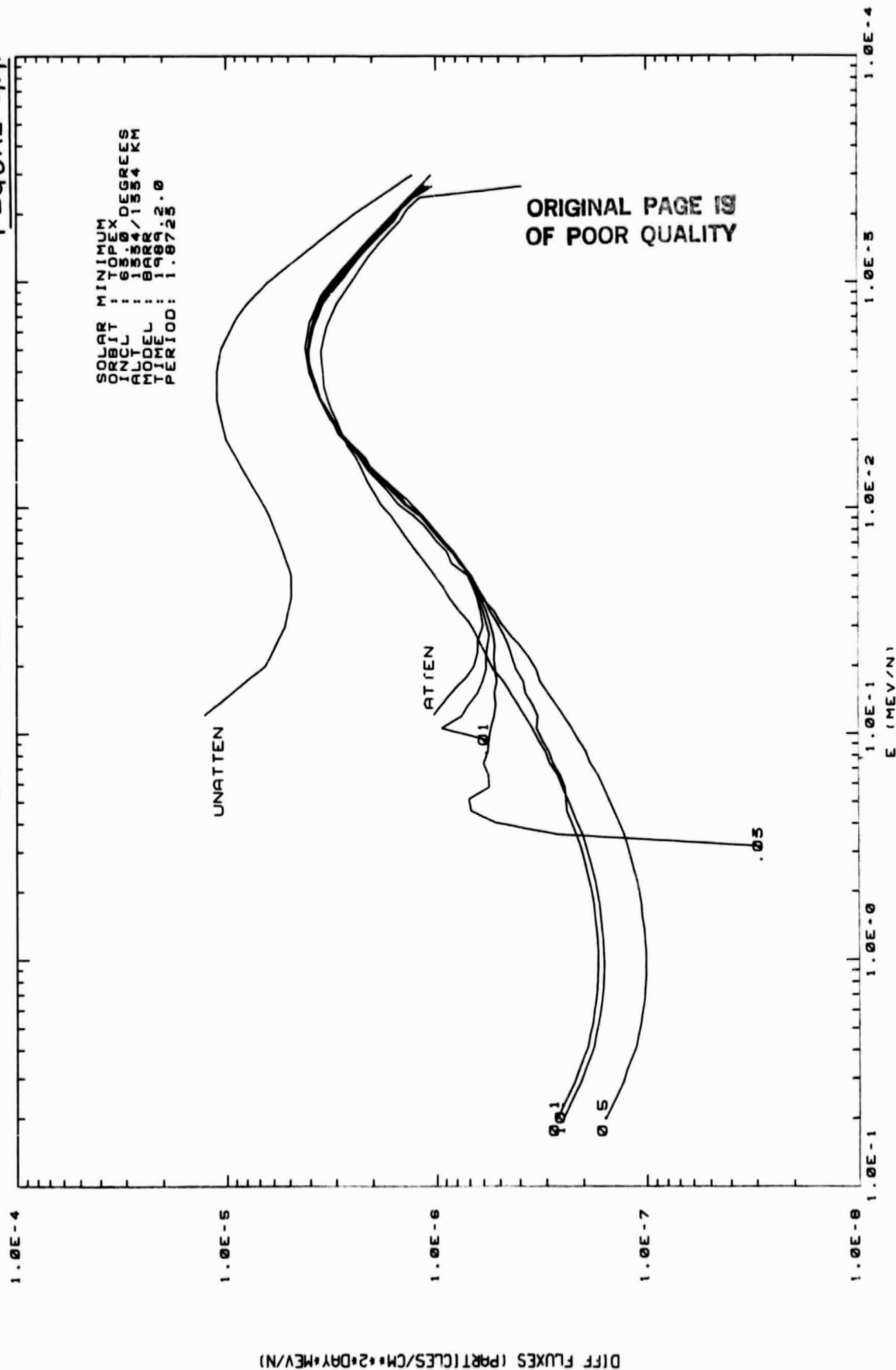


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: CL
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-17
A-35.46

FIGURE 44

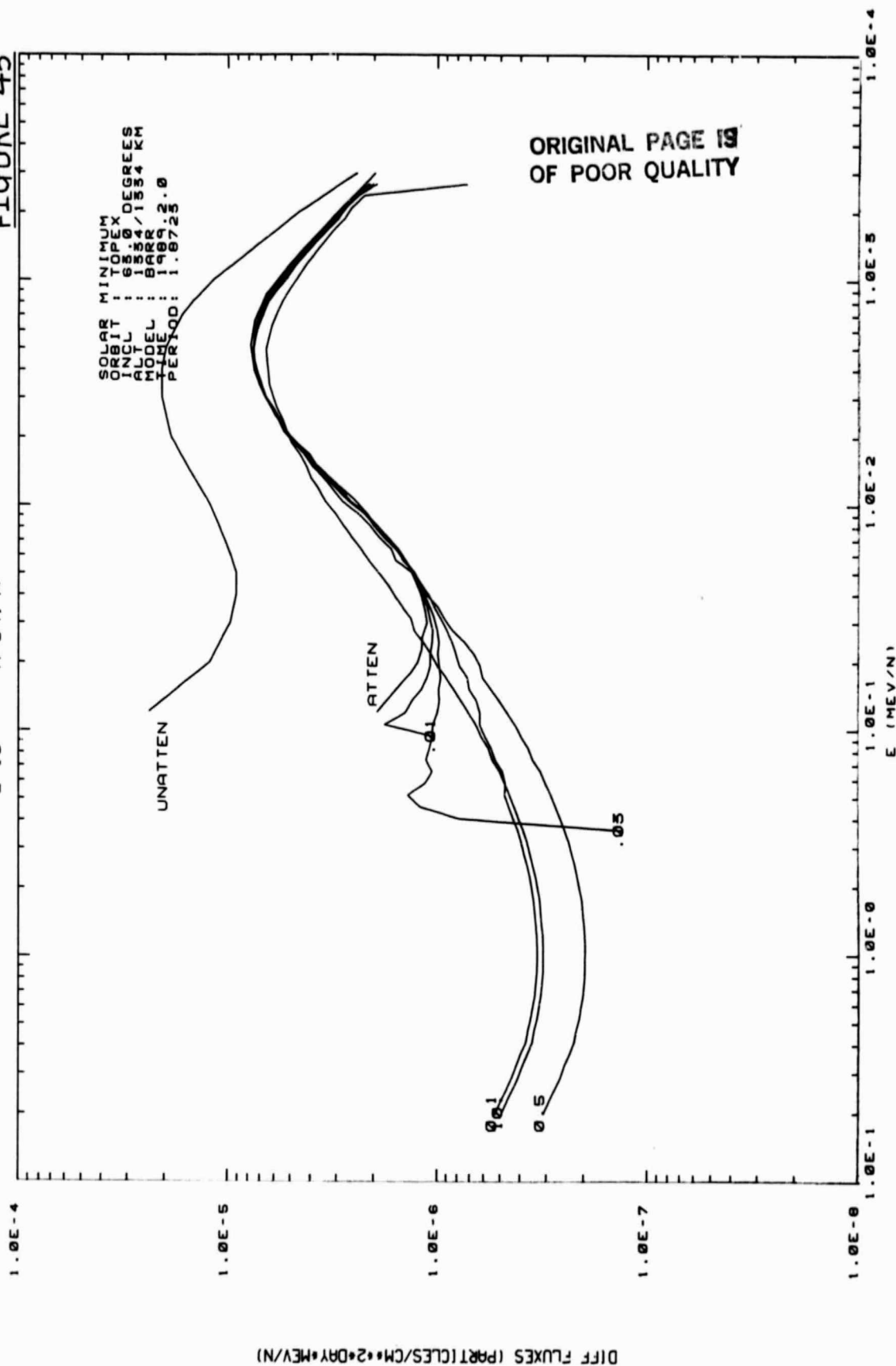


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: AR
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-18 A-59.94

FIGURE 45

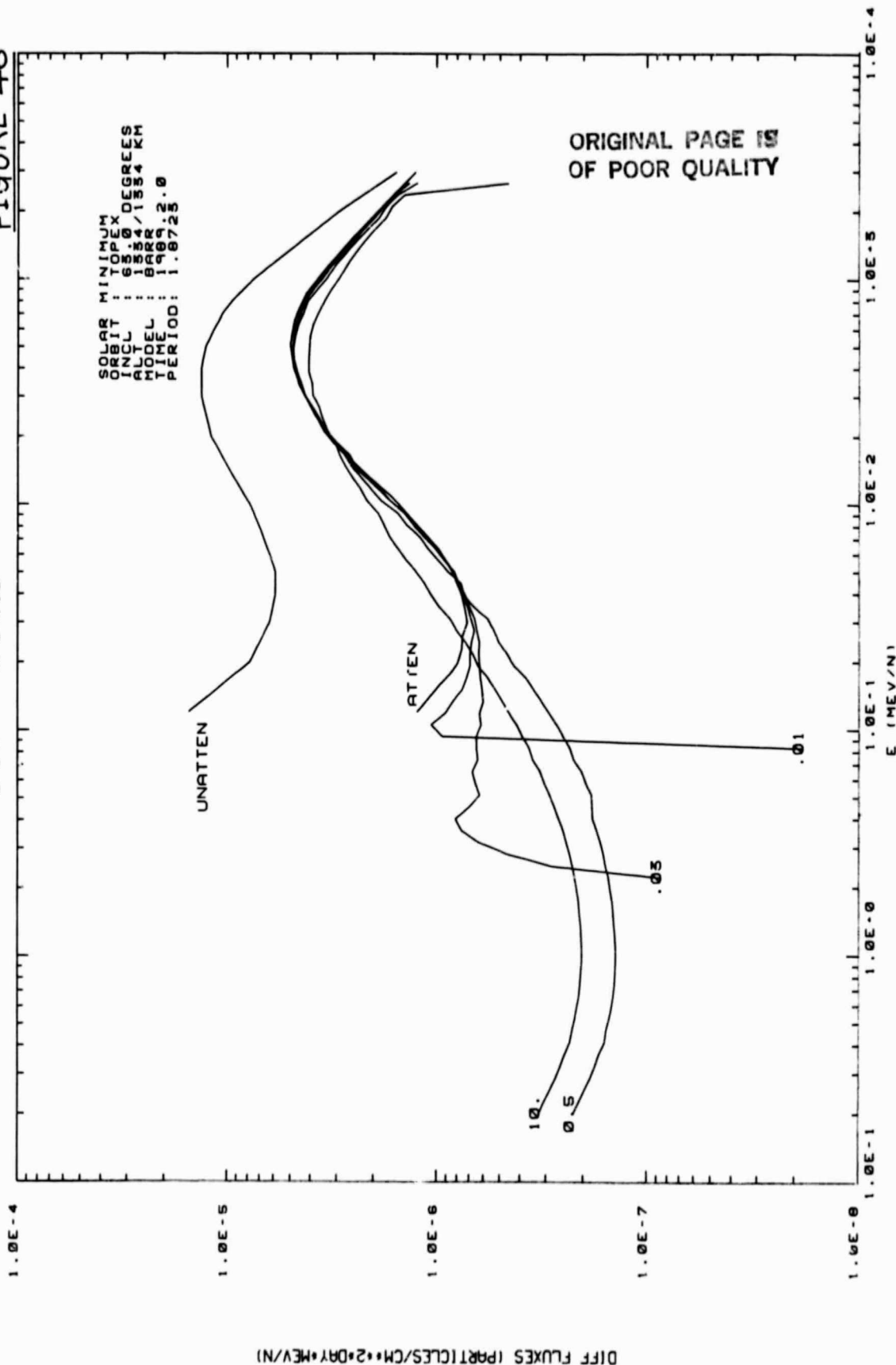


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: K
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-19 A-59.10

FIGURE 46

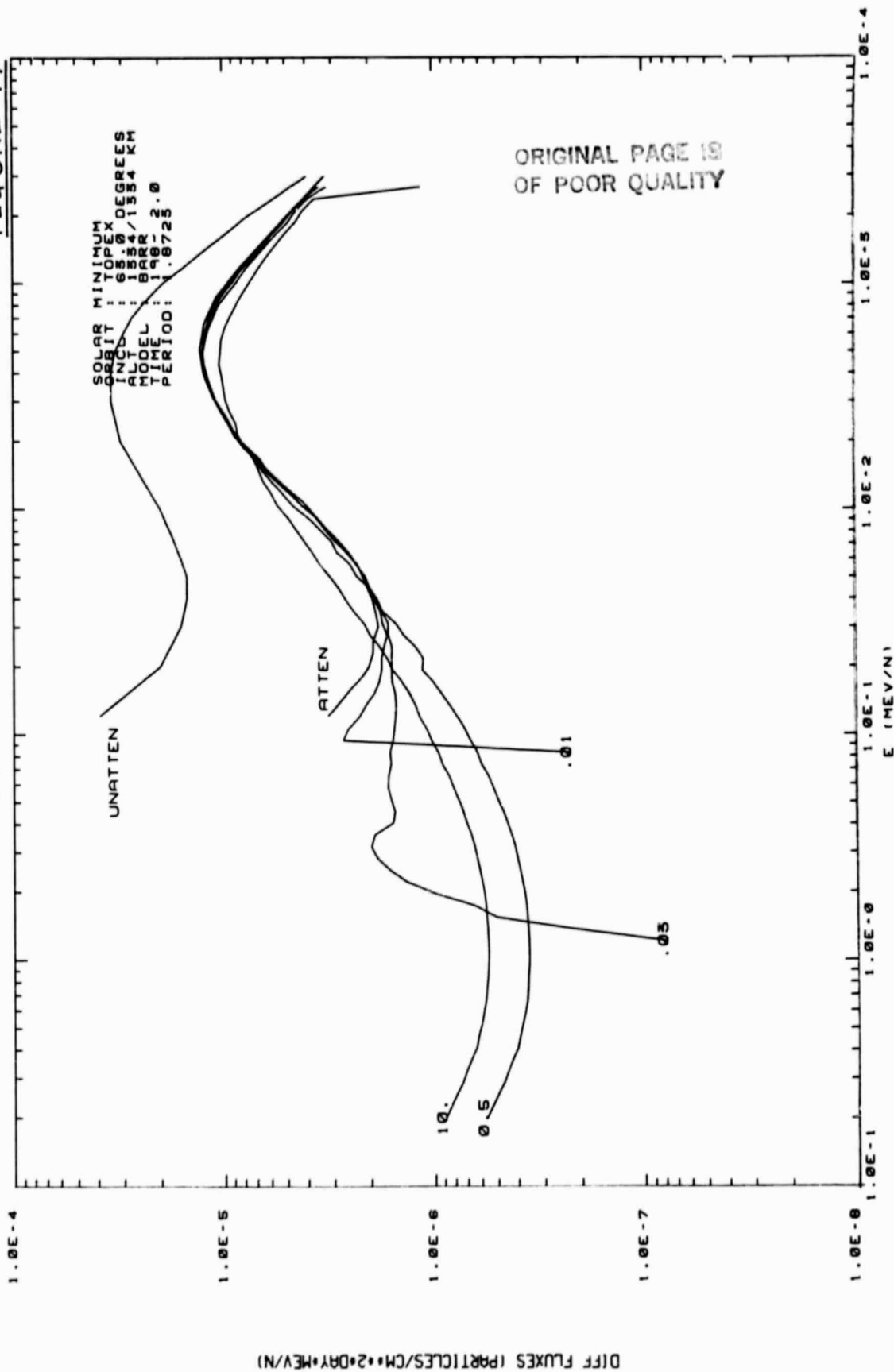


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: CA
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-20 A-40.00

FIGURE 47

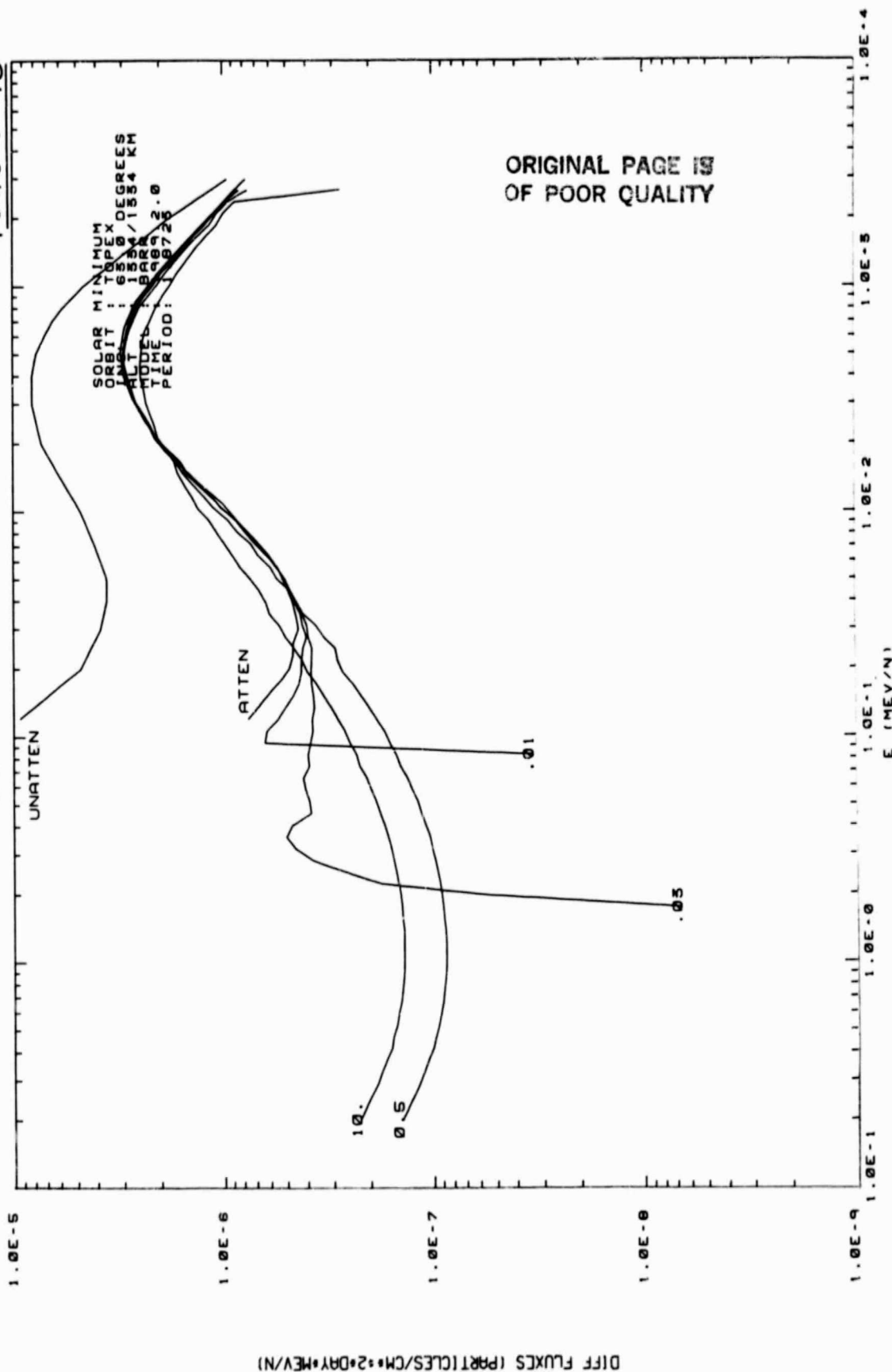


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: SC
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=21
A=44.96

FIGURE 48

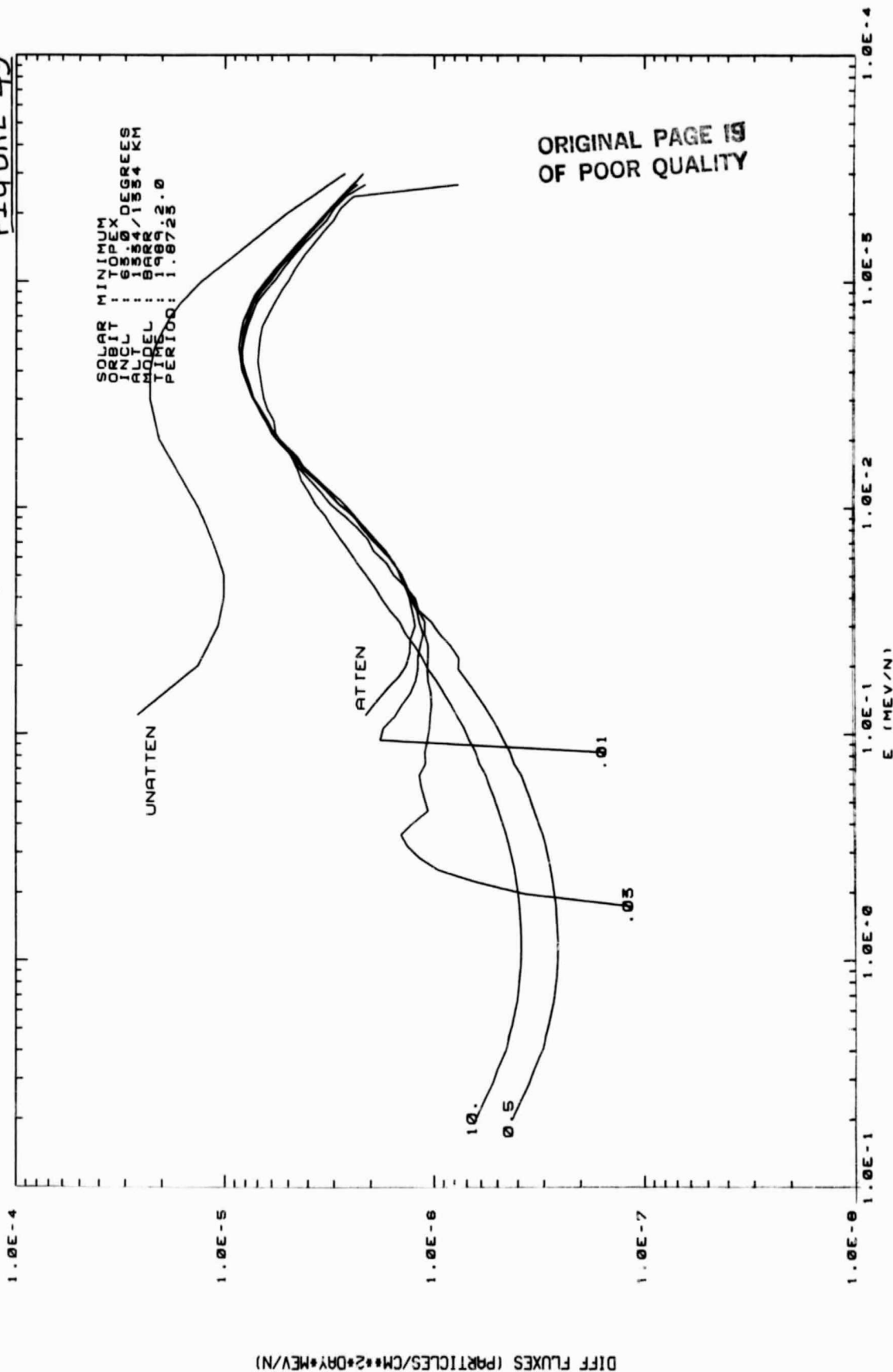


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: T1
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-22
A-47.90

FIGURE 49



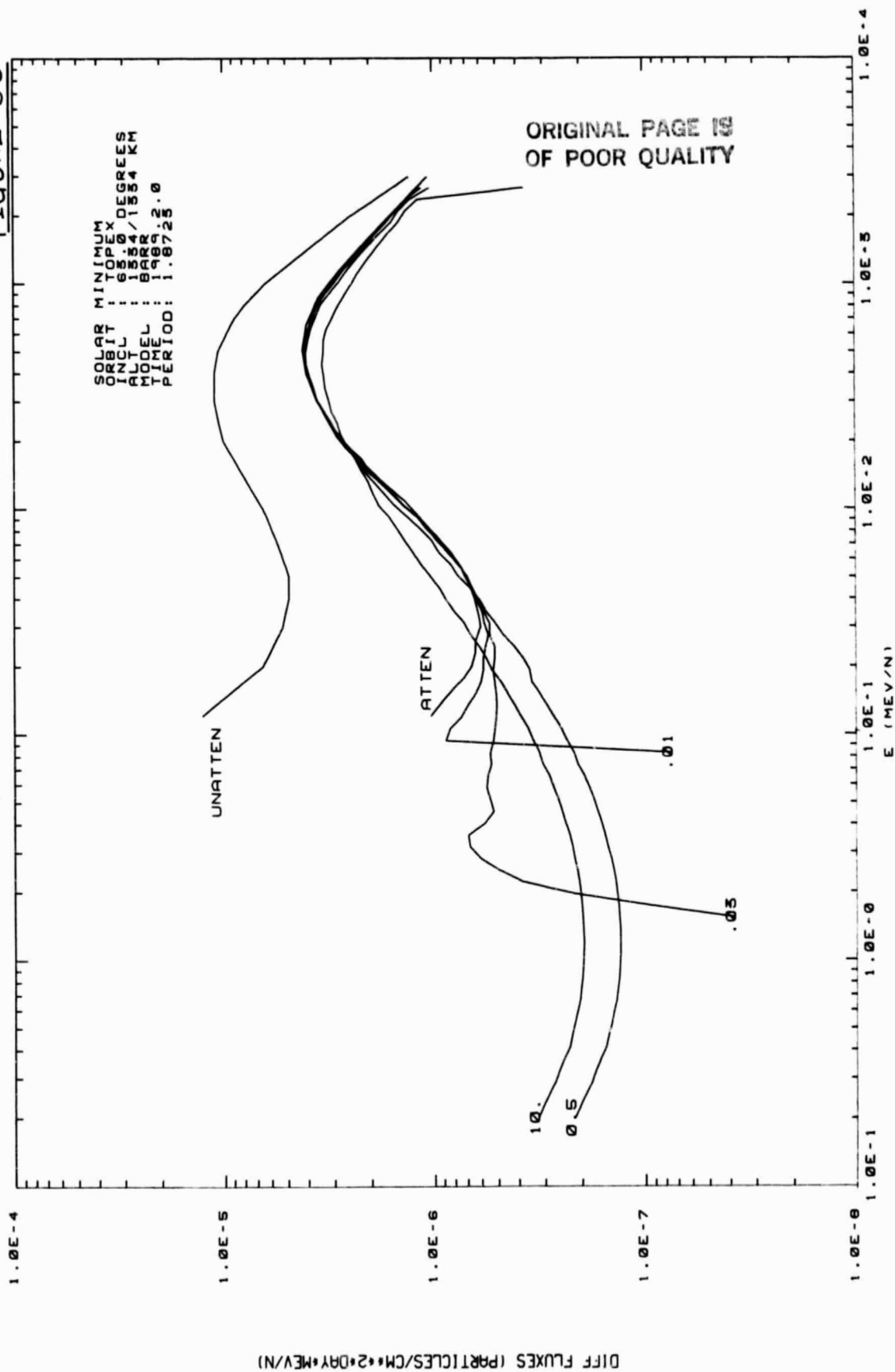
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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: V
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-23 A-50.95

FIGURE 50

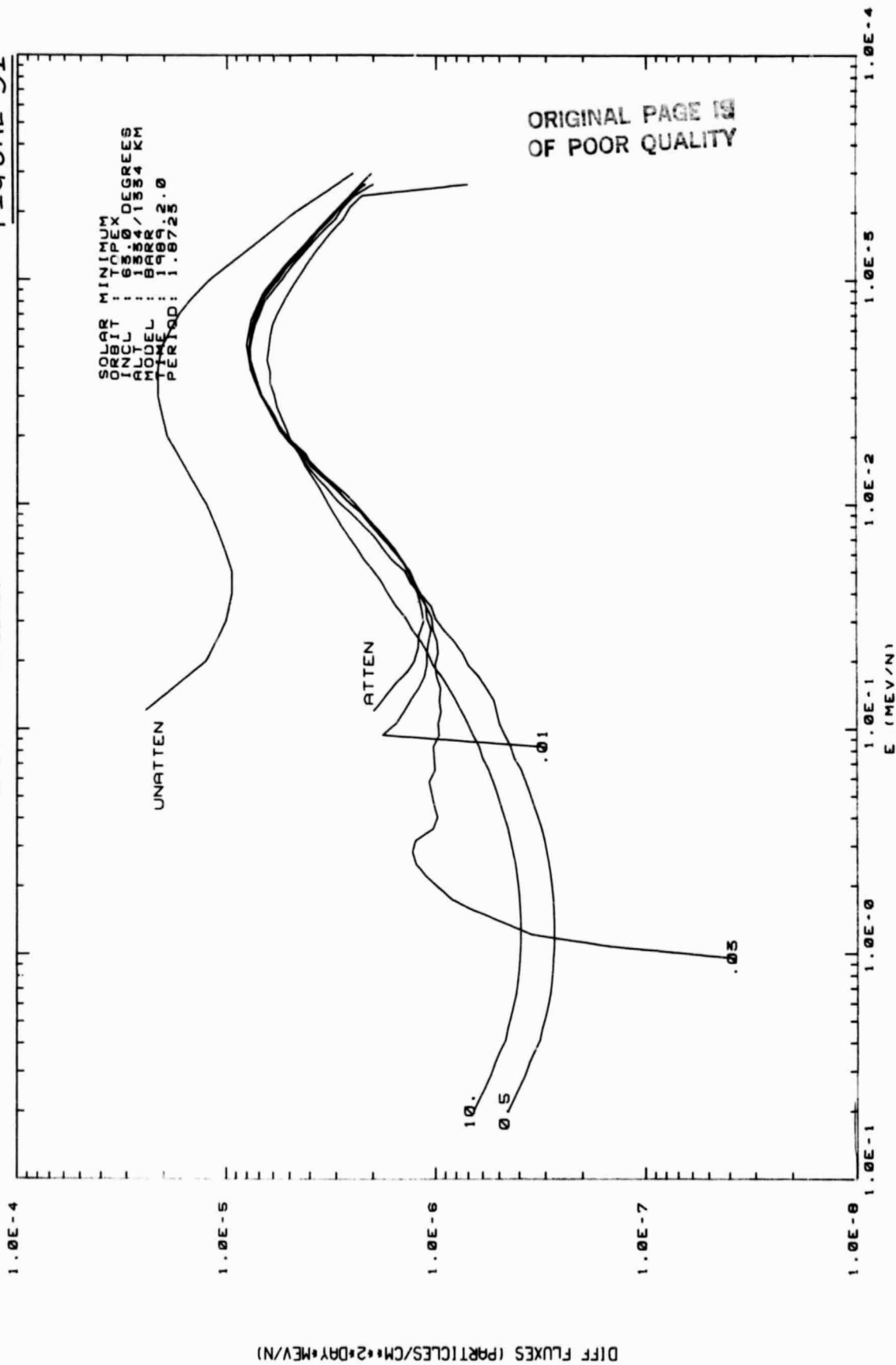


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: CR
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-24 A-52.01

FIGURE 51

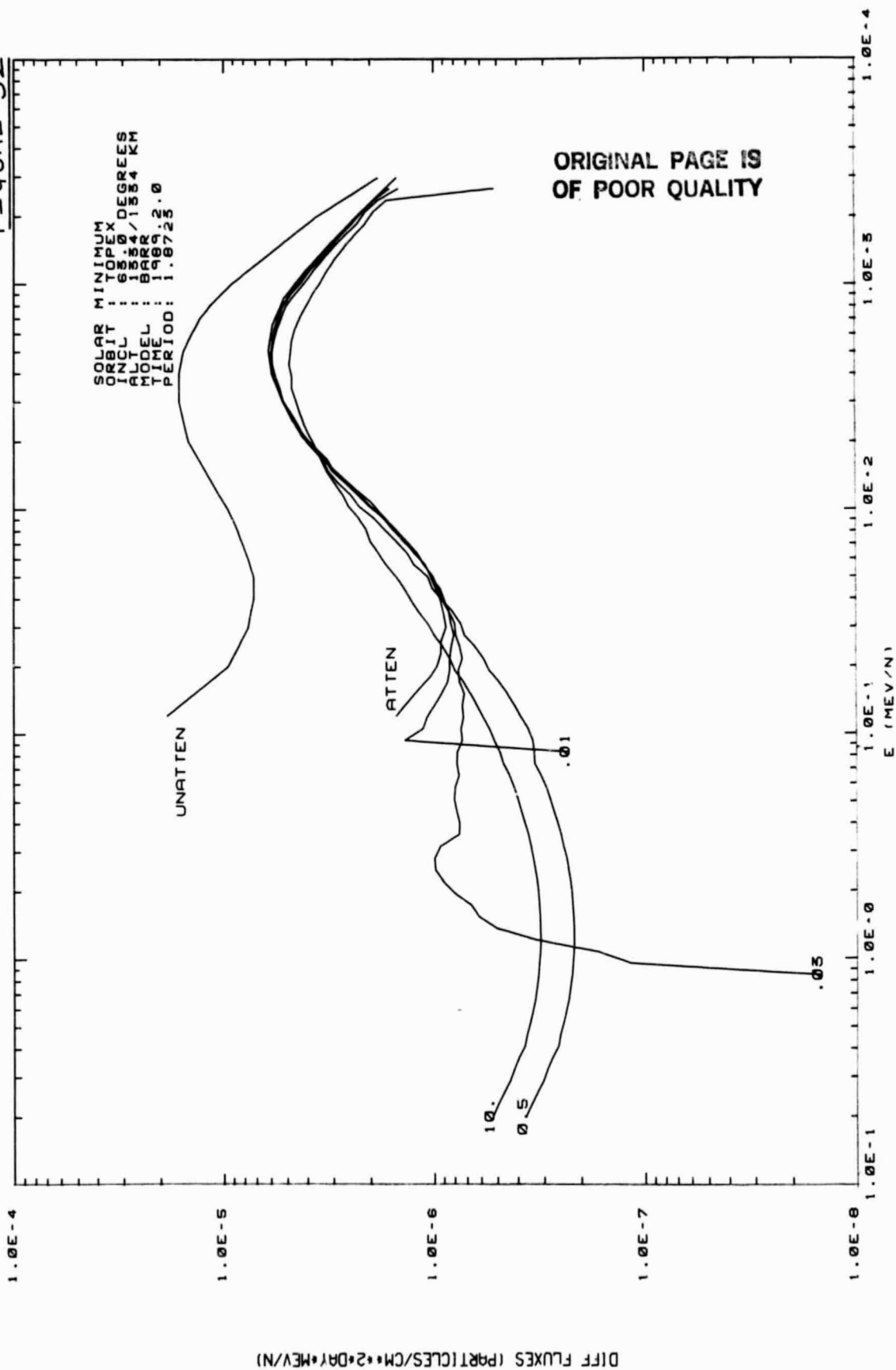


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MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: MN
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-25
A-54.94

FIGURE 52



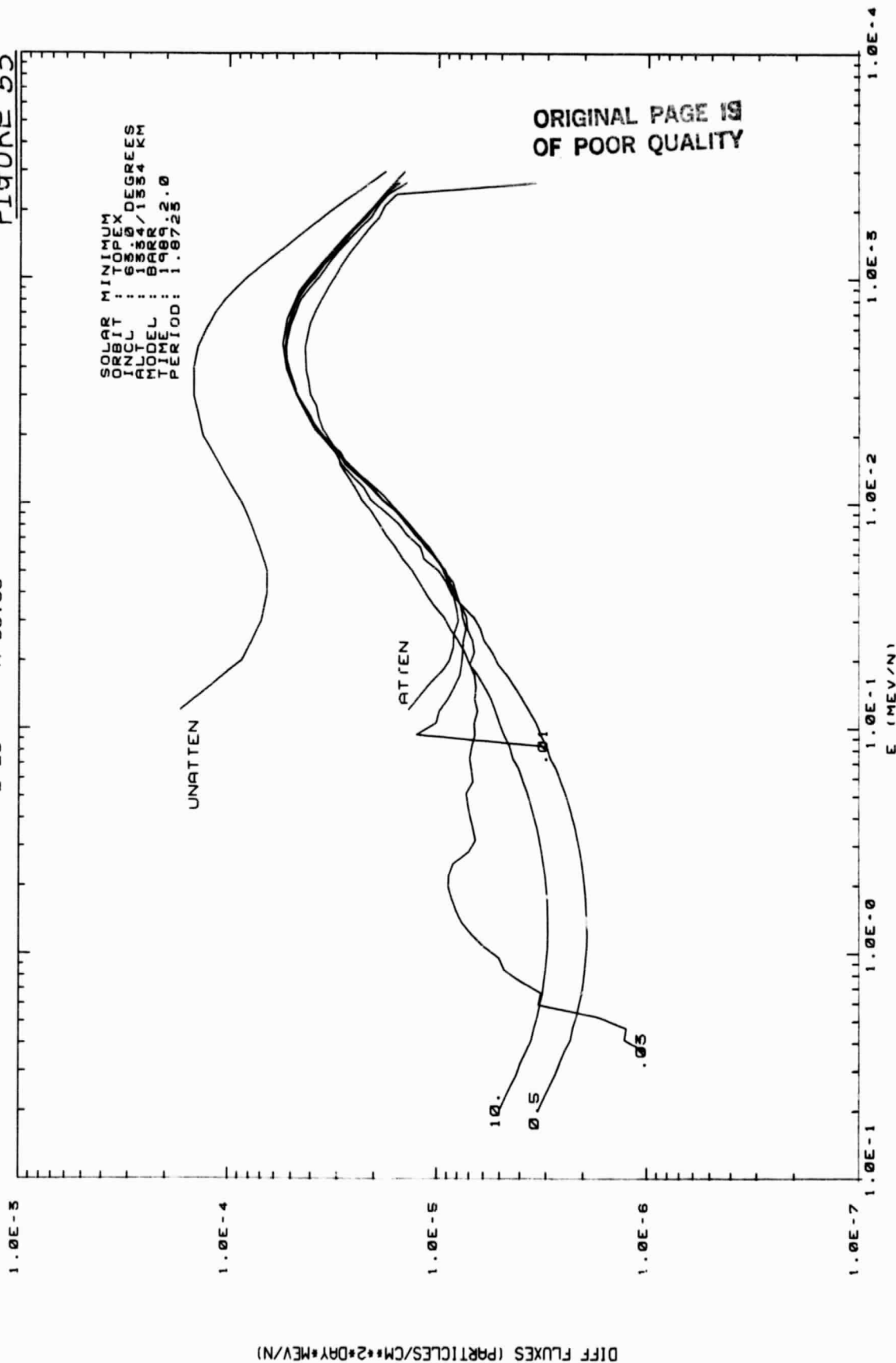
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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: FE
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z=26 A=55.85

FIGURE 53



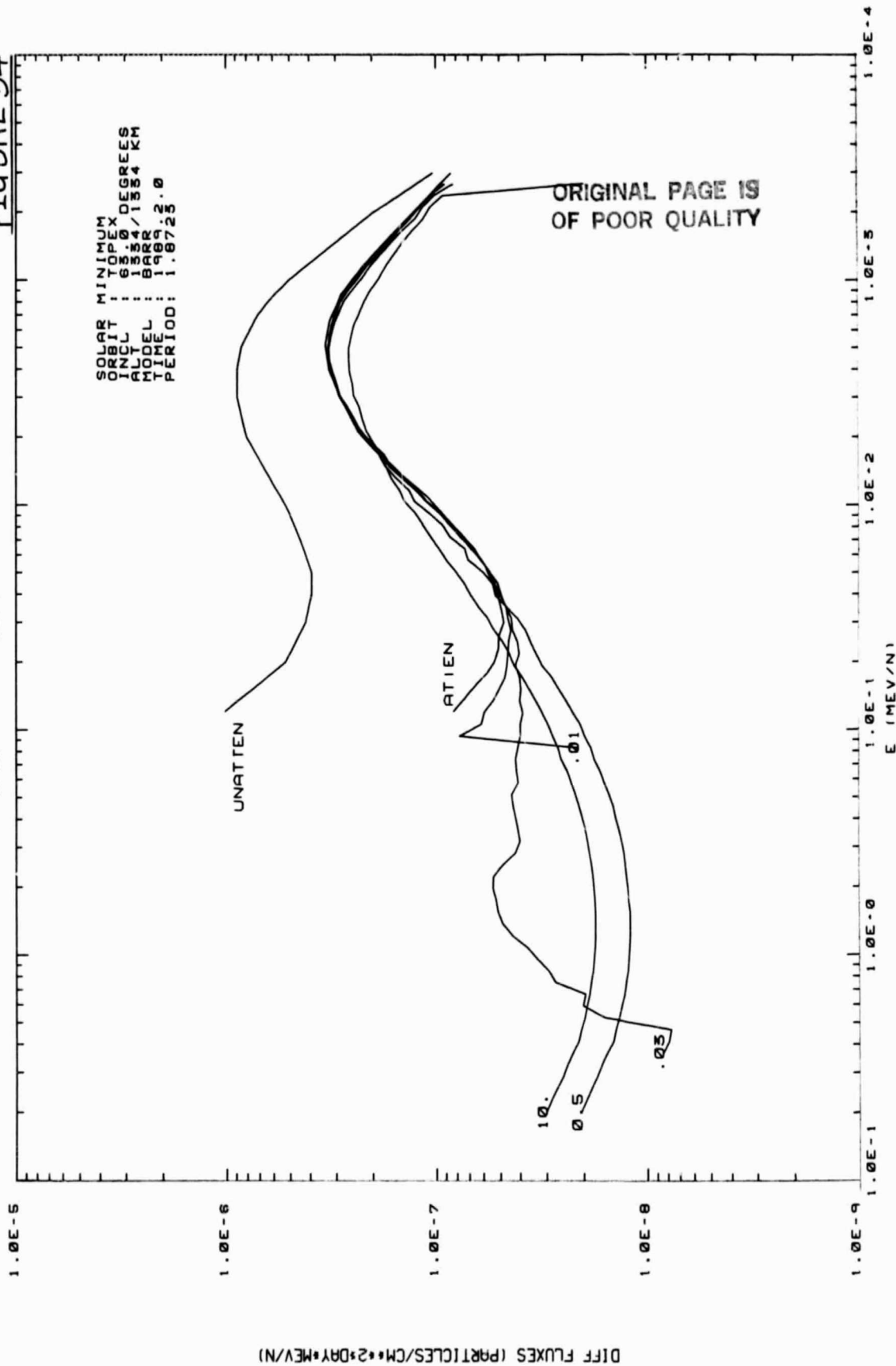
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MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: CO
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-27
A-58.94

FIGURE 54

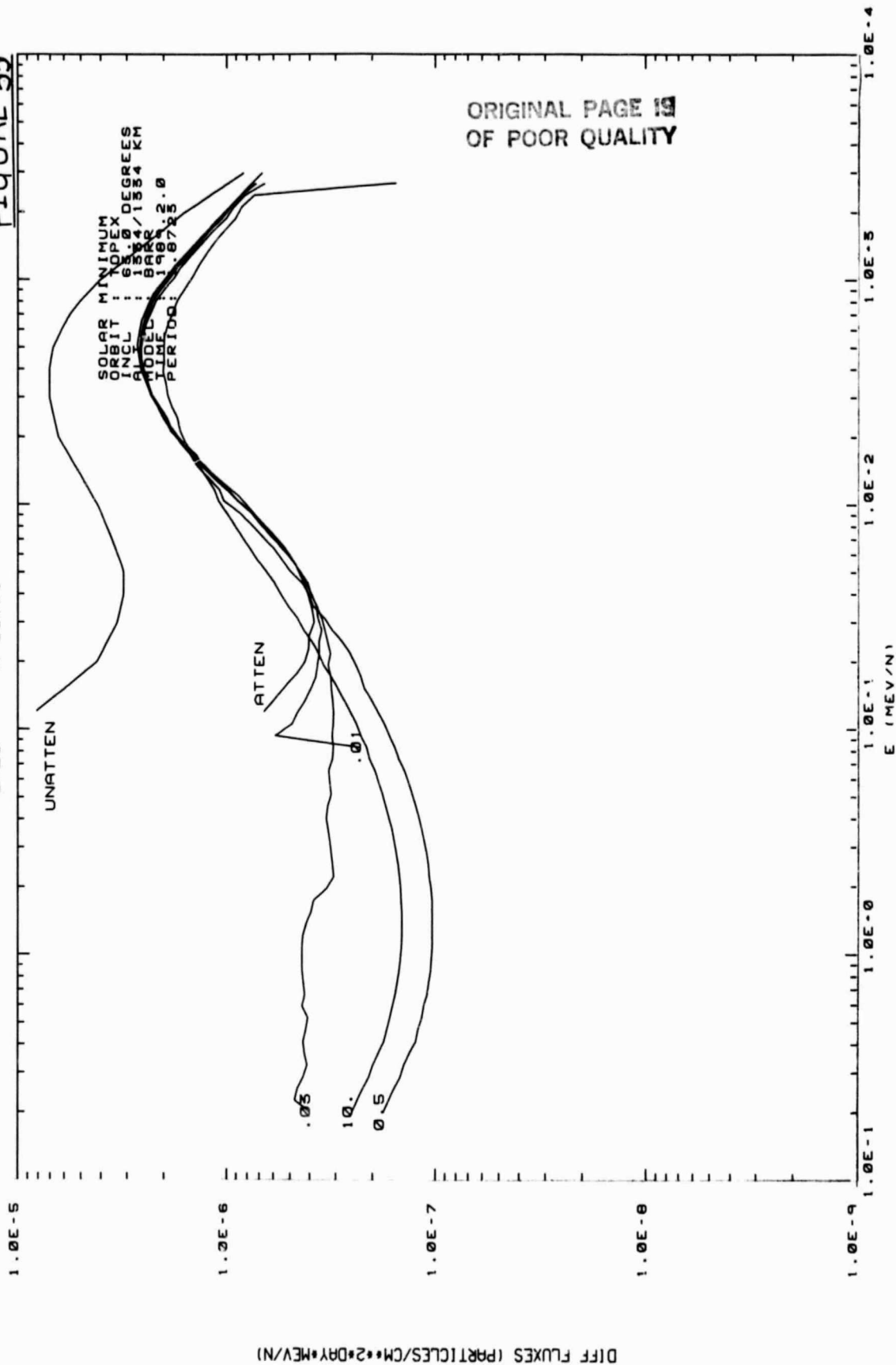


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TOPEX COSMIC RAY ANALYSIS
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: NI
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL
ALUMINUM SHIELDS
Z-28 A-58.71

FIGURE 55



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